ORDER NO. BSD0303M901
D21

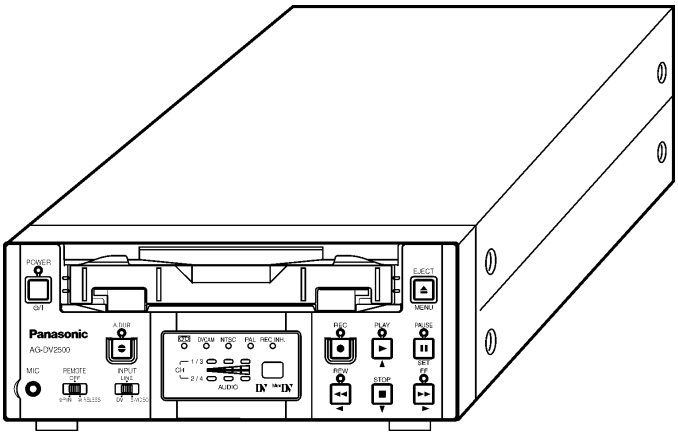
# Service Manual

Sec. 1 Service Information
Sec. 2 Mechanical Adjustments
Sec. 3 Electrical Adjustments
Sec. 4 Technical Description
Sec. 5 Block Diagrams/
Schematic Diagrams/
Circuit Board Diagrams
Sec. 6 Exploded Views &
Replacement Parts List

DV Mini DV

## DV VIDEO CASSETTE RECORDER

# AG-DV2500P/E




Panasonic

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**⚠ WARNING**

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

# AG-DV2500P

## ■ General

**Recording system**: DV system (SP mode only)
**Signal system** : NTSC/PAL
**Cassette** : Standard/ mini DV cassette
**Tape width** : 6.35mm
**Tape speed** : 18.812mm/s (NTSC)
18.831mm/s (PAL)
**Recording/ playback time**
: 276 minutes (DV276)
63 minutes (DVM63)
**Fast forward/ rewind time**
: About 3 minutes (DV276)
About 1 minute (DVM63)
**Power** : DC12V⎓(supplied via the provided AC adapter)
**Power consumption**: 14W, 1.17A
**External dimension** : 174mm × (W) ×68mm (H) ×260mm (D) (Excluding protruding parts, e.g., foot)
**Weight** : About 2.3 kg
**Allowable operating temperature**
: 5˚C to 35˚C
**Allowable storage temperature**
: –20˚C to 60˚C
**Allowable operating RH**
: 30%RH to 80%RH

## ■ Video

**Recording format**: 8 bit, 13.5MHz,
4:1:1 (NTSC)
4:2:0 (PAL)
**Video input**
**Line (composite)** : 1.0V (p-p), 75Ω unbalance
**S-VIDEO Y** : 1.0V (p-p), 75Ω unbalance
**C** : 0.286V (p-p) (NTSC) /
0.3V (p-p) (PAL)
75Ω unbalance
**Video output**
**Line (composite)** : 1.0V (p-p), 75Ω unbalance
**S-VIDEO Y** : 1.0V (p-p), 75Ω unbalance
**C** : 0.286V (p-p) (NTSC) /
0.3V (p-p) (PAL)
75Ω unbalance

## ■ Audio

**Recording format** : 16 bit, 48kHz, 2 channels PCM audio/12 bit, 32kHz, 4-channel PCM audio
**Number of track** : 2 (16 bit,4 8kHz) /
4 (12 bit, 32kHz)
**Audio input** : –8dBu, 10kΩ unbalance
**Mike input** : –60dBu, 3kΩ unbalance
**Audio output** : –8dBu, 1kΩ unbalance
**Frequency characteristics**
: 20Hz to 20kHz (48kHz)
* 0 dBu = 0.775Vrms

## ■ DV interface

**Input/output** : IEEE1394

## ■ AC adapter section

**Power** : AC 100V to 240V∿,
50Hz/60Hz.
**Power consumption**
: 1.0A to 0.5A
**Output** : DC 12V ⎓ 3.5A

## ■ Accessories

Wireless remote controller ..... ×1
AC adapter ..... ×1
Mains Cable ..... ×1
Battery(AA) ..... ×2
Stand ..... ×1

## AG-DV2500E

## ■ General

**Recording system**: DV system (SP mode only)
**Signal system** : NTSC/PAL
**Cassette** : Standard/ mini DV cassette
**Tape width** : 6.35mm
**Tape speed** : 18.812mm/s (NTSC)
18.831mm/s (PAL)
**Recording/ playback time**
: 276 minutes (DV276)
63 minutes (DVM63)
**Fast forward/ rewind time**
: About 3 minutes (DV276)
About 1 minute (DVM63)
**Power** : DC12V⎓(supplied via the provided AC adapter)
**Power consumption**: 14W, 1.17A
**External dimension** : 174mm × (W) ×68mm (H) ×260mm (D) (Excluding protruding parts, e.g., foot)
**Weight** : About 2.3 kg
**Allowable operating temperature**
: 5˚C to 35˚C
**Allowable storage temperature**
: –20˚C to 60˚C
**Allowable operating RH**
: 30%RH to 80%RH

## ■ Video

**Recording format**: 8 bit, 13.5MHz,
4:1:1 (NTSC)
4:2:0 (PAL)
**Video input**
**Line (composite)** : 1.0V (p-p), 75Ω unbalance
**S-VIDEO Y** : 1.0V (p-p), 75Ω unbalance
**C** : 0.286V (p-p) (NTSC) /
0.3V (p-p) (PAL)
75Ω unbalance
**Video output**
**Line (composite)** : 1.0V (p-p), 75Ω unbalance
**S-VIDEO Y** : 1.0V (p-p), 75Ω unbalance
**C** : 0.286V (p-p) (NTSC) /
0.3V (p-p) (PAL)
75Ω unbalance

## ■ Audio

**Recording format** : 16 bit, 48kHz, 2 channels PCM audio/12 bit, 32kHz, 4-channel PCM audio
**Number of track** : 2 (16 bit,4 8kHz) /
4 (12 bit, 32kHz)
**Audio input** : –8dBu, 10kΩ unbalance
**Mike input** : –60dBu, 3kΩ unbalance
**Audio output** : –8dBu, 1kΩ unbalance
**Frequency characteristics**
: 20Hz to 20kHz (48kHz)
* 0 dBu = 0.775Vrms

## ■ DV interface

**Input/output** : IEEE1394

## ■ AC adapter section

**Power** : AC 100V to 240V∿,
50Hz/60Hz.
**Power consumption**
: 1.0A to 0.5A
**Output** : DC 12V ⎓ 3.5A

## ■ Accessories

Wireless remote controller ..... ×1
AC adapter ..... ×1
Mains Cable ..... ×2
Battery(AA) ..... ×2
Stand ..... ×1

# SAFETY PRECAUTIONS

## GENERAL GUIDELINES

1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been over-heated or damaged by the short circuit.
2. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
3. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

## LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohm meter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. The resistance value must be more than 5MΩ.

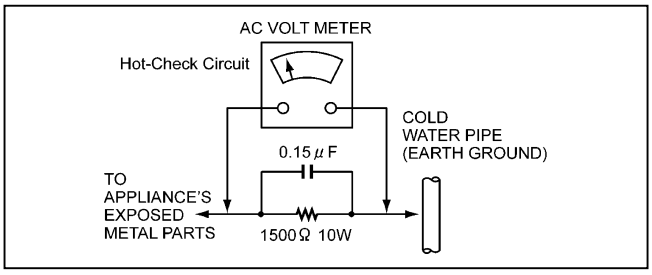



**Figure1**

## LEAKAGE CURRENT HOT CHECK (See Figure 1)

1. Plug the AC cord directly into the AC outlet.
   Do not use an isolation transformer for this check.
2. Connect a 1.5KΩ, 10W resistor, in parallel with a 0.15μ F capacitor, between each exposed metallic part on the set an a good earth ground such as a water pipe, as shown in Figure1.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet repeat each of the above measurements.
6. The potential at any point should not exceed 0.15 volts RMS. A leakage current tester (Simpson Model 229 equivalent) may be used to make the hot checks, leakage current must not exceed 0.1 milliamp. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

## ABOUT LEAD FREE SOLDER (PbF)

**Distinction of Pbf PCB:**
PCBs (manufactured) using lead free solder will have a PbF stamp on the PCB.
**Caution:**

1. Pb free solder has a higher melting point than standard solder; Typically the melting point is 50–70˚F (30-40˚C) higher. Please use a high temperature soldering iron. In case of the soldering iron with temperature control, please set it to 700±20˚F (370±10˚C).
2. Pb free solder will tend to splash when heated too high (about 1100˚F/600˚C).

## ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically sensitive (ED) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor “chip” components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground.
   Alternatively, obtain and wear a commercially available discharging wrist trap device, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as alminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device classified as “anti-static” can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it.
   (most replacement ES devices are package with leads electrically shorted together by conductive foam, alminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
   CAUTION : Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise hamless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device).

## X-RADIATION

**WARNING**

1. The potential source of X-radiation in EVF sets is the High Voltage section and the picture tube.
2. When using a picture tube test jig for service, ensure that jig is capable of handling 10kV without causing X-Radiation.

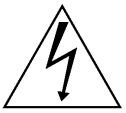
**Note :** It is important to use an accurate periodically calibrated high voltage meter.

3. Measure the High Voltage. The meter (electric type) reading should indicate 2.5kV,±0.15kV. If the meter indication is out of tolerance, immediate service and correction is required to prevent the possibility of premature component failure. To prevent an X-Radiation possibility, it is essential to use the specified picture tube.

**CAUTION**

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

**WARNING:**
**TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.**

**This unit should be used with 120 V AC only.**

**CAUTION:**
**To prevent electric shocks and fire hazards, DO NOT use any other power source.**

## INFORMATION

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## CAUTION

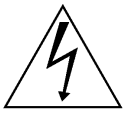
CHANGES OR MODIFICATIONS NOT APPROVED BY PANASONIC COULD VOID USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.

**ATTENTION**

RISQUE D'ELECTROCUTION
NE PAS OUVRIR

ATTENTION: POUR EVITER TOUT RISQUE D'ELECTROCUTION
NE PAS OUVRIR LE BOITER.
AUCUNE PIECE INTERIEURE N'EST
A REGLER PAR L'UTILISATEUR.
SE REFERER A UN AGENT QUALIFIE EN CAS DE PROBLEME.



Le symbole de l'éclair à l'intérieur d'un triangle équilatéral est destiné à alerter l'utilisateur sur la présence d'une "tension dangereuse" non isolée dans le boîtier du produit. Cette tension est suffisante pour provoquer l'électrocution de personnes.

Le point d'exclamation à l'intérieur d'un triangle équilatéral est destiné à alerter l'utilisateur sur la présence d'opérations d'entretien importantes au sujet desquelles des renseignements se trouvent dans le manuel d'instructions.

*Ces symboles ne sont utilisés qu'aux Etats-Unis.

**AVERTISSEMENT:**
**POUR EVITER LES RISQUES D'INCENDIE OU D'ELECTROCUTION, NE PAS EXPOSER L'APPAREIL A L'HUMIDITE OU A LA PLUIE.**

**Ce magnétoscope ne doit être utilisé que sur du courant alternatif en 120 V.**

**ATTENTION:**
**Afin d'éviter tout resque d'incendie ou d'électrocution, ne pas utiliser d'autres sources d'alimentation électrique.**

**WARNING:**
The battery used in the AG-DV2500P must be replaced by a PANASONIC authorized service dealer only.

**AVERTISSEMENT:**
La pile utilisée dans l'appareil AG-DV2500P doit être remplacée chez un marchand de services autorisé par PANASONIC.

The Class B digital apparatus complies with Canadian ICES-003.

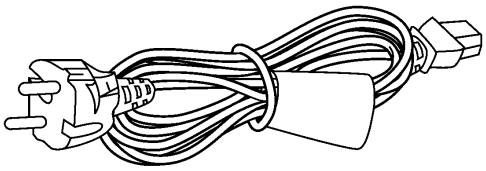
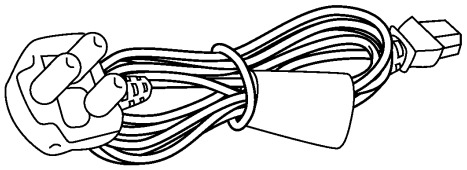
Cet appareil numerique de la Classe B est conforme a la nonne NMB-003 du Canada.

L'appareil digital (Classe B) est conforme à l'ICES-003 canadien.

# Caution for AC Mains Lead

**FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY.**

This product is equipped with 2 types of AC cable. One is for continental Europe, etc. and the other one is only for U.K. Appropriate mains cable must be used in each local area, since the other type of mains cable is not suitable.

| **FOR CONTINENTAL EUROPE, ETC.** | **FOR U.K. ONLY** |
|---|---|
| Not to be used in the U.K. | If the plug supplied is not suitable for your socket outlet, it should be cut off and appropriate one fitted. |
|  |  |

**FOR U.K. ONLY**

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.
A 13 amp fuse is fitted in this plug.
Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 13 amps and that it is approved by ASTA or BSI to BS1362.
Check for the ASTA mark or the BSI mark on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local Panasonic Dealer.

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.
THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.
If in any doubt please consult a qualified electrician.

**WARNING** : THIS APPLIANCE MUST BE EARTHED.

**IMPORTANT** : The wires in this mains lead are coloured in accordance with the following code:

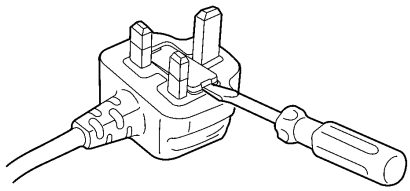
| | |
|---|---|
| Green-and-Yellow | : Earth |
| Blue | : Neutral |
| Brown | : Live |

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

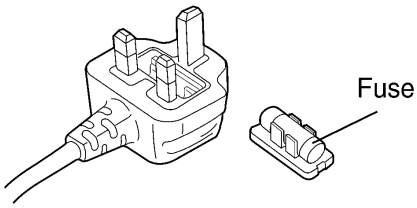
- The wire which is coloured GREEN-AND-YELLOW must be connected to the terminal in the plug which is marked with the letter E or by the Earth symbol or coloured GREEN or GREEN-AND-YELLOW.
- The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.
- The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

**How to replace the fuse**

1. Open the fuse compartment with a screwdriver.



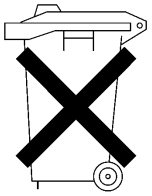
2. Replace the fuse.



**Warning Notice**
**FOR YOUR SAFETY**

1. Insert this plug only into effectively earthed three-pin power outlet.
2. If any doubt exists regarding the earthing, consult a qualified electrician.
3. Extension cord, if used, must be three-core correctly wired.

**Attention/Attentie**



- Batteries are used for memory back-up in the product and remote controller.
  At the end of their useful life, you should not throw them away.
  Instead, hand them in as small chemical waste.
- Baterrijen zijn gebruik gemaak voor inladen van geheugen voor allerlei producten onder ander afstandbediening.
  Wanneer de batterij niet meer beruikbaar is, mag u deze niet gewoon weggooien, maar dient u ze als klein chemisch afval weg te doen.

**WARNING:**
**TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.**

**CAUTION**
To prevent electric shock, do not open the cabinet. No user serviceable parts inside. Refer servicing to qualified service personnel.

The POWER button does not completely shut off mains power from the unit, but switches operating current on and off.

**WARNING**
It should be noted that it may be unlawful to re-record pre-recorded tapes, records, or discs without the consent of the owner of copyright in the sound or video recording, broadcast, or cable programme and in any literary, dramatic, musical or artistic work embodied therein.

Panasonic

FCD0303BYNK130

# SECTION 4

# TECHNICAL DESCRIPTION

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# SECTION 4
# TECHNICAL DESCRIPTION

## 4.1 PRODUCT OUTLINE

(1) DV Standard/Mini cassette compatible
(2) 4.5 hours consecutive recording/playback possible using Standard cassette (DV270)
(3) 5.25-inch half hight bay size compact design (mechanism unit only)
(4) Layout-free with horizontal and vertical positioning capability

## 4.2 MECHANISM

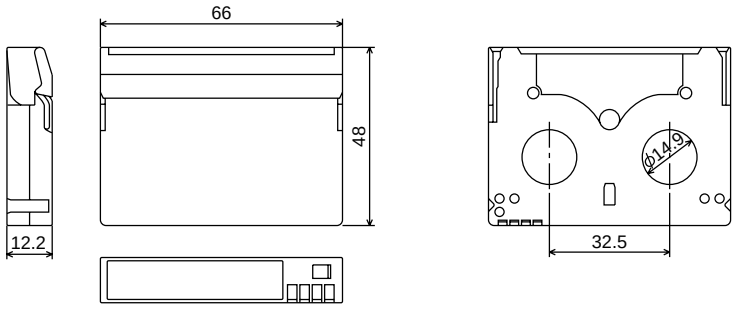
### 4.2.1 Mechanism out line

| Item | AG-DV2500 |
|---|---|
| Compatible cassette | Mini/Standard Cassette compatible |
| Loading system | Front loading |
| Head cleaner | Yes (solenoid) |
| Reel drive | Reel motor (1 motor) |
| FWD/REV reel switching | Swing gear switching |
| Tension control | Tension band method<br>(SUP/TU dual control) |

### 4.2.2 Regarding standard cassette

AG-DV2500 is newly compatible with DV standard size cassettes. Fig. 4.2.1 shows a size comparison with conventional Mini cassette. All dimensions differ, including cassette thickness in addition to height and width.

**• Mini Cassette**




**• Standard Cassette**

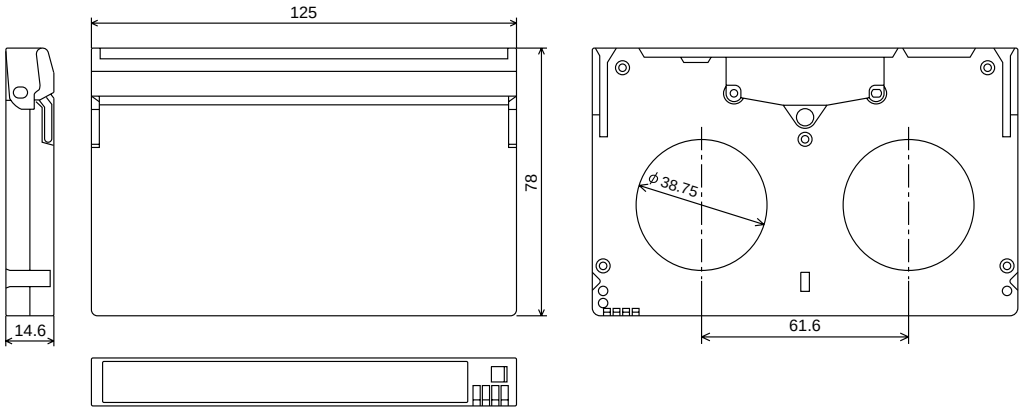



**Fig. 4.2.1 Comparison Between Mini Cassette and Standard Cassette**

### 4.2.3 Cassette housing operation outline

**(1) Inserted cassette type detection**

In its initial state, the reel disk is in the standard position, and only when a mini cassette is inserted it changes to the mini cassette position. As explained in Section 2, it is the reel change plate (Fig. 4.2.5) that changes the position of the reel disk.

As previously compared in 4.2.1, the thickness of standard and mini cassettes differ.

Standard cassette thickness : 14.6 mm

Mini cassette thickness : 12.2 mm

Based on this difference, it is differentiated within the cassette housing whether the inserted cassette is standard or mini.

**1) When a mini cassette is inserted**

The reel disk position changes to the mini cassette position at the same time the cassette housing performs the intake movement.

The reel change bracket (Fig. 4.2.3) located on the right side of the cassette housing is linked to the reel change plate (Fig. 4.2.4), so when the cassette housing intake movement occurs the reel change plate also moves, thereby changing to the mini cassette position.

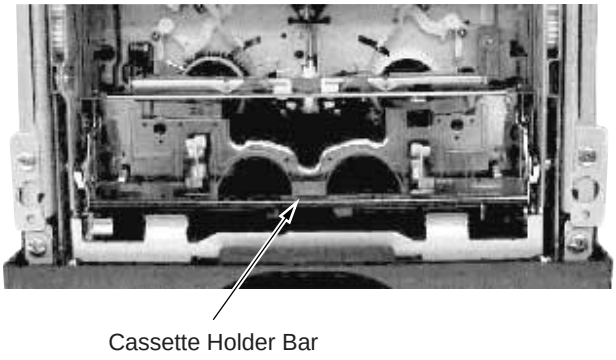



**Fig. 4.2.2 Cassette Holder Bar**

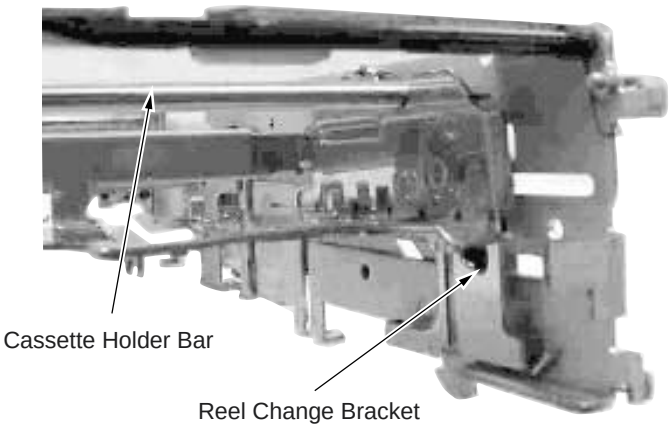



**Fig. 4.2.3 Reel Change Bracket**

**2) When a standard cassette is inserted**

The cassette holder bar (Fig. 4.2.2) is pushed up for the amount of thickness differential in relation to mini cassette, and in conjunction the reel change bracket (Fig. 4.2.3) located on the right side of the cassette housing moves upward. As a result, the link with the reel change plate (Fig. 4.2.4) becomes free, and the reel disk becomes held in the standard position even while the cassette housing is undergoing the intake movement.

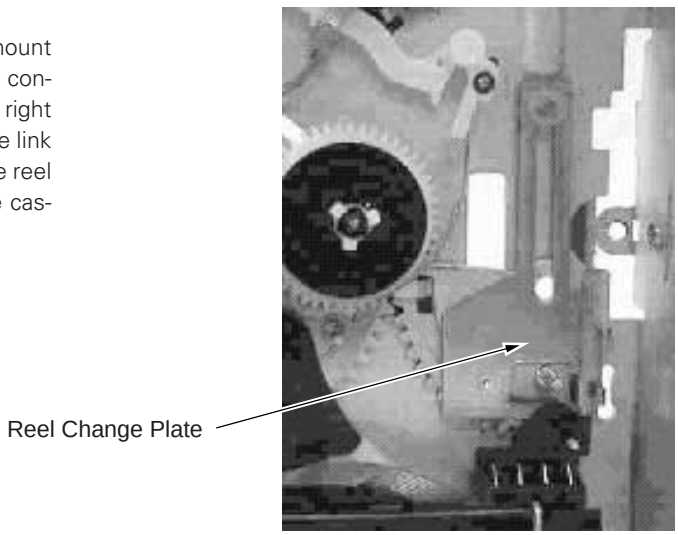



**Fig. 4.2.4 Reel Change Plate**

**(2) Mini Cassette Incorrect Insertion Prevention Function**

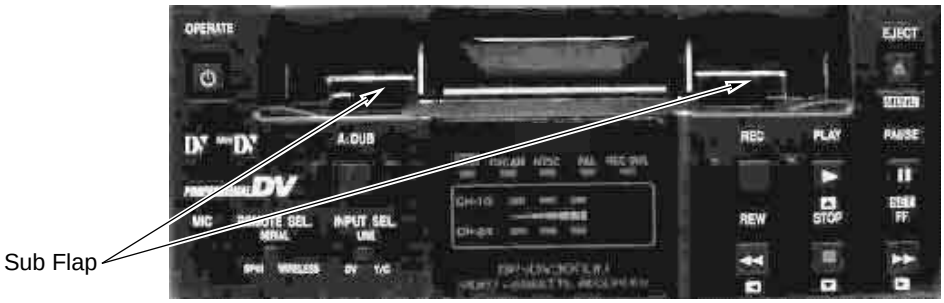



**Fig. 4.2.5 Sub Flap**

Sub flaps are attached on the cassette guide assembly located on the bottom end of the cassette housing door. These two sub flaps are designed to open when both are pressed simultaneously, and in the case of a mini cassette it is impossible for both to be pressed at the same time. So even if an inserted mini cassette touches against one of the sub flaps, the sub flaps will act as a brake to prevent erroneous loading of a mini cassette.

**CAUTION**

Even with standard cassettes, if the cassette is inserted skewed or diagonally offset in relation to the sub flaps, the sub flaps may not open and cassette insertion may not be possible. When inserting a standard cassette, be sure to insert so that the sides are parallel to the sub flaps.

**(3) Intake/Eject Detection**

Two housing switches (HW, HW2) are equipped on the front left side of the main deck. (See Fig. 4.2.6)
In the initial status in which no cassette is inserted (NO cassette mode), switch HW is pressed and switch HW2 is not pressed.

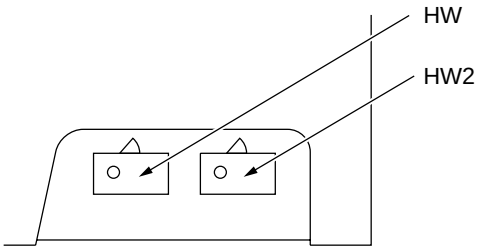



**Fig. 4.2.6 Cassette Housing Switch**

| Mode | HW | HW2 | S3 |
|---|---|---|---|
| EJECT (Initial) | ON | OFF | OFF |
| INTAKE Detect | OFF | OFF | OFF |
| INTAKE END | OFF | OFF | ON |
| EJECT END | ON | ON | OFF |

**Table 4.2.1**

**Intake** : When a cassette is inserted, the HW switch goes OFF, which causes detection of cassette insertion. After this the motor begins intake action.

**Intake complete** : When cassette intake is completed, in conjunction with the housing movement the main deck's switch lever slides, causing the MECHA board S3 (cassette switch) to be pressed, and intake completion is detected. (See Fig. 4.2.7)

**Eject** : When ejecting the cassette, both switches HW and HW2 are momentarily ON, and eject completion is detected. And from here, it returns to the initial status of switch HW=ON, HW2=OFF.

### 4.2.4 Switches

This is a description of how the various switches equipped on the mechanism operate, as shown in table 4.2.2.

| Switch name | Operation | Location |
|---|---|---|
| HW | Cassette intake detection switch | Fig. 4.2.6 |
| HW2 | Cassette eject detection switch | Fig. 4.2.6 |
| S1 (Mecha board) | Standard cassette detection switch | Fig. 4.2.7 ① |
| S2 (Mecha board) | SUP reel lock release switch* | Fig. 4.2.7 ② |
| S3 (Mecha board) | Cassette intake completion detection switch | Fig. 4.2.7 ③ |

**Table 4.2.2 Switches**

* Condition of SUP reel lock release switch operation :
After cassette intake, tape is pulled out of the take-up side for loading, but when a virgin tape is inserted it switches over to pull out from the supply side since it is not possible to pull out from the take-up side.
Immediately following tape intake completion, when the Begin sensor detects tape leader the cassette housing motor moves further to the loading side and, after the switches lever release the SUP brake, S2 is turned ON and brake release is detected.

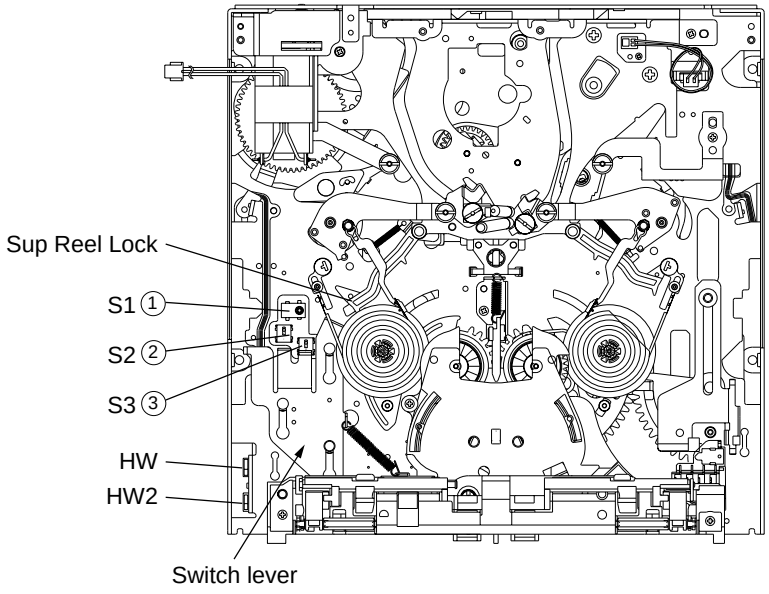



**Fig. 4.2.7 Switch Location**

### 4.2.5 Reel motor

The AG-DV2500 has adoped an independent one-reel motor, besides a capstan motor. As a result, quicker response when switching from Play to Reverse Search or Forward Search modes has been attained, greatly improving operability and the durability.

And as shown in table 4.2.3 the speeds of capstan search and FF/REW are also accelerated.

| | | AG-DV2500 |
|---|---|---|
| CAPSTAN Search SPEED | | Approx. 20X speed |
| FF/REW TIME | Mini (DVM60) | Under 75 sec. |
| | Standerd (DV270) | Under 200 sec. |

**Table 4.2.3**

### 4.2.6 Tension

The AG-DV2500 have double tension control for supply/take-up.
The AG-DV2500 uses double tension control to regulate the tension differential caused by winding and modes used, obtaining a uniform tape tension for stable tape transport.

### 4.2.7 Mode sensor

The AG-DV2500's mode sensor adopts the variable resistor method (MECHA board VR1) which uses changes in resistance to detect the position of the mechanism. The changed voltage, brought about by changes in the resistance value due to mechanism position, is sent to DV/CPU IC302 to made to the A/D conversion. The mechanism position is judged by this.

| Mode sensor voltage | Mechanism position | Mode |
|---|---|---|
| 0.273 ± 0.03 V | UNLOAD END position | NO CASSETTE MODE |
| 1.314 ± 0.03 V | BRAKE position | FF/REW → Modes in which tension band is used as brake for stopping |
| 1.691 ± 0.03 V | FAST position | FF/REW MODE |
| 2.111 ± 0.03 V | STOP position | STAND-BY OFF |
| 2.716 ± 0.03 V | SEARCH position | PLAY/REC/SEARCH/STAND-BY ON |

**Table 4.2.4 Voltage and Mechanism Position Comparison**

* Voltage figures shown are target values for software control, and may differ somewhat from the actual voltage. Please regard them as rough estimates.

## 4.3 SYSTEM CONTROL

### 4.3.1 Outline

The control system is comprised of the SYSCON CPU (IC2001) on the MAIN board assembly, and the VCR (MSD) CPU (IC302) on the DV/CPU board assembly. Both of these are connected by a bus called the MS_BUS, and communicate via serial data transfer

| Communication type | Clock synchronous serial communication |
|---|---|
| Communication speed | 1.68 Mbps |
| Data length | 8bit x 25 |
| Bit order | MSB head |
| Clock generation source | SYS CPU |
| Data direction | Full duplex |

**Table 4.3.1 MS_BUS Communication Settings**

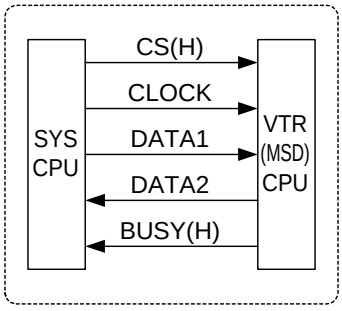



**Fig. 4.3.1 MS BUS Connection**

### 4.3.2 Communication specifications

(1) SYSCON CPU turns the CS from "L" → "H" and communication begins.
(2) SYSCON CPU confirms that the BUSY terminal is "L", and transmits data at CLOCK1.68MHz as well as receives data from the VCR (MSD) CPU.
(3) VCR (MSD) CPU also sends and receives data in accordance with CLK. However, if it is not yet ready for communication it sets the BUSY terminal to "H" and notifies the SYSCON CPU.
(4) When the BUSY terminal is "H", SYS CPU skips the current communication and waits until the next block (400 µs later) to see if it is "L" and then starts communication.
(5) After 25 Bytes are communicated, CS is set to "L" and communication ends.

### 4.3.3 Communication timing

In synchronization with internal reference sync, communication takes place once every 16.6 ms (NTSC) or 20 ms (PAL). Byte interval is 400 µs. When necessary the contents of the communication are changed at the 1st2nd field.

#### 4.3.4 SYSCON (IC2001) CPU port functions

| Pin No. | Port Name | Reference | I/O | Description |
|---|---|---|---|---|
| 1 | PE5 | TP2004 | | Not used |
| 2 | PE6 | HOUSING_SW | I | H : Insert cassette tape |
| 3 | PE7 | CASS_SW | I | L : Complate to intake cassette tape |
| 4 | PD0 | DAC_CS (H) | O | IC201 chip select |
| 5 | PD1 | 165_CS | O | IC2006/IC2007 chip select |
| 6 | PD2 | 4094_CS | O | IC3009/IC3010 chip select |
| 7 | PD3 | AUD_DACTL_CS (L) | O | IC1006 (AUDIO DA) chip select |
| 8 | PD4 | 66311_DATA | O | IC2008 data |
| 9 | PD5 | PON_MAIN (H) | O | |
| 10 | PD6 | PON_UNIT (H) | O | |
| 11 | PD7 | AUDREF12 (H) | O | Corresponds to audio level for consumer VTR. |
| 12 | CVCC | Power supply | +3V | |
| 13 | PC0 | SDI | I | IC2006/IC2007 serial pin. |
| 14 | VSS | Power supply | GND | |
| 15 | PC1 | S_DATA | O | IC2008/IC2010/IC201 |
| 16 | PC2 | S_CLK | O | IC2006/IC2008/IC2009/IC2010/IC201 clock |
| 17 | PC3 | AUDIN_MUTE (H) | O | For muting the audio input |
| 18 | PC4 | AUD_SYS_MUTE | O | For muting the audio output |
| 19 | PC5 | AUDOUT_SMUT | O | For muting the search level |
| 20 | PC6 | AUD_DACTL_CK | O | Audio DA clock |
| 21 | PC7 | AUD_DACTL_DT | O | Audio DA data |
| 22 | PB0/TIOCA3 | 66311_CLK | O | IC208 clock |
| 23 | PB1/TIOCB3 | 66311_CSK | O | IC208 data |
| 24 | PB2/TIOCC3 | WIRELESS_REM | I | Wireless remote input |
| 25 | PB3/TIOCD3 | SERIAL_REM | I | Serial remote input |
| 26 | PB4/TIOCA4 | NTSC (L) | O | VIDEO |
| 27 | PB5/TIOCB4 | BWO (L) | O | VIDEO |
| 28 | PB6/TIOCA5 | CPS (L) | O | VIDEO |
| 29 | PB7/TIOCB5 | 66311_RST | O | IC2008 RESET |
| 30 | PA0 | ODD_EVEN | I | |
| 31 | PA1/TxD2 | SYSCPU_TRXD | O | TCCS (For factory use) |
| 32 | PA2/RxD2 | SYSCPU_TTXD | I | |
| 33 | PA3/SCK2 | SYSCPU_TCK | | YDC clock input |
| 34 | P10/TIOCA0 | E2_DI | I | EEPROM |
| 35 | P11/TIOCB0 | E2_DO | O | |
| 36 | P12/TIOCC0/TCLKA | E2_CLK | O | |
| 37 | P13/TIOCD0/TCLKB | E2_CS | O | |
| 38 | P14/TIOCA1/IRQ0 | RTC_INT | I | RTC (Real time clock) IC2002 |
| 39 | P15/TIOCB1/TCLKC | RTC_CS | O | |
| 40 | P16/TIOCA2/IRQ1 | RTC_CLK | O | |
| 41 | P17/TIOCB2/TCLKD | RTC_SIO | I/O | |
| 42 | AVSS | Analog GND | GND | |
| 43 | P97/DA1 | | | Not used |
| 44 | P96/DA0 | | | Not used |
| 45 | P47/AN7 | | | Not used |
| 46 | P46/AN6 | | | Not used |
| 47 | P45/AN5 | | | Not used |
| 48 | P44/AN4 | | | Not used |
| 49 | P43/AN3 | CIN_DC | I | |
| 50 | P42/AN2 | LEVEL_DET_DC | I | Low battery detection |

| Pin No. | Port Name | Reference | I/O | Description |
|---|---|---|---|---|
| 51 | P41/AN1 | METER_CH1 | I | AUDIO indicator |
| 52 | P40/AN0 | METER_CH2 | I | |
| 53 | Vref | Analog reference | - | |
| 54 | AVCC | Analog power | +3V | |
| 55 | MD0 | Mode terminal 0 | I | Pullup (not used) |
| 56 | MD1 | Mode terminal 1 | I | Pullup (not used) |
| 57 | OSC2 | Subclock (32.768kHz) | I | X2002 |
| 58 | OSC1 | Subclock (32.768kHz) | I | |
| 59 | RES | Reset input | I | From IC2004 |
| 60 | NMI | NMI | I | Pullup (not used) |
| 61 | STBY | Standby | I | Pullup (not used) |
| 62 | VCC | Power | +3V | |
| 63 | XTAL | Clock | I | X2001 |
| 64 | VSS | Power | GND | |
| 65 | EXTAL | External clock | I | X2001 |
| 66 | FEW | Flush light enable | I | For Rewrite |
| 67 | MD2 | Mode terminal 2 | I | Operation mode setup |
| 68 | PF7/$\phi$ | System clock (TP2002) | O | |
| 69 | PF6 | SWIN_NTSC | I | REAR NTSC/PAL slid SW |
| 70 | PF5 | TP2021 | | Not used |
| 71 | PF4 | FAN_STOP (H) | I | Not used |
| 72 | PF3/-ADTRG/IRQ3 | OPERATE | I | Operate SW |
| 73 | PF2 | EJECT | I | Pull-up from EJECT SW AL3V |
| 74 | PF1/BUZZ | TP2023 | - | Not used |
| 75 | PF0/IRQ2 | WAKE_UP | I | Start interrupt key input from standby mode |
| 76 | P30/TxD0 | OSD_DATA | O | OSD (UART0) |
| 77 | P31/RxD0 | OSD_CS | O | |
| 78 | P32/SCK0/SDA1/IRQ4 | OSD_CLK | O | |
| 79 | P33/TxD1/SCL1 | 422_Tx | O | RS-422 (UART1) |
| 80 | P34/RxD1/SDA0 | 422_Rx | I | |
| 81 | P35/SCK1/SCL0/IRQ5 | 8029VD | I | IC208 CSYNC |
| 82 | P36 | OSD_RST | O | OSD |
| 83 | P77/TxD3 | MS_OUT | O | MS BUS (UART3) |
| 84 | P76/RxD3 | MS_IN | I | |
| 85 | P75/TMO3/SCK3 | MS_CLK | O | |
| 86 | P74/TMO2/MRES | SCR_LR | I | Not used |
| 87 | P73/TMO1 | SCR_UD | I | Not used |
| 88 | P72/TMO0 | V_MUTE | O | |
| 89 | P71/TMRI23/TMCI23 | MSD_RESET | | Reset output to VCR (MSD) microcomputer |
| 90 | P70/TMRI01/TMCI01 | MSD_CS | O | Interface with VCR (MSD) microcomputer |
| 91 | PG0/IRQ6 | SYS_OUTV | I | VIDEO V TIMING |
| 92 | PG1/IRQ7 | SYS_INV | I | |
| 93 | PG2 | MSD_READY | O | Interface with VCR (MSD) microcomputer |
| 94 | PG3 | 8029CS | O | IC208 control |
| 95 | PG4 | 8029CLK | O | |
| 96 | PE0 | 8029SDI | O | |
| 97 | PE1 | 8029SDO | I | |
| 98 | PE2 | 8029RST | O | |
| 99 | PE3 | 8029AMUTE | O | |
| 100 | PE4 | V_PB (H) | O | VIDEO |

**Table 4.3.2 SYSCON Terminal Function**

### 4.3.5 MSD CPU (IC302) port functions

| Pin No. | Port Name | Reference | I/O | Description |
|---|---|---|---|---|
| 1 | ND | OPEN | - | Not used |
| 2 | ND | OPEN | - | Not used |
| 3 | VSS | D_GND | - | GND for digital |
| 4 | P01/D1 | STD_CASS_SW | I | Standard cassette switch |
| 5 | P05/D5 | START_SEL_2 | O | Standard sensor sensibility selection |
| 6 | P11/D9 | REEL_FWD_CTL | O | Reel motor direction control |
| 7 | NC (VDDF) | VOUT_25 | I | Power for digital |
| 8 | VSS | D_GND | - | GND for digital |
| 9 | P26/D22/SBI1 | EEPR_SDI | I | For EEPROM communication |
| 10 | P30/D24/SBT1 | EEPR_SCL | O | For EEPROM communication |
| 11 | P35/D29/SBO3 | MS_IN | O | Data for MS_BUS communication |
| 12 | P40/PWM1/TM0IO | DRUM_REF | O | DRUM_REF (MDA) |
| 13 | P51/IRQ1 | DRUM_FG | I | DRUM_FG |
| 14 | P57/IRQ7 | GND (10k) | O | Not used |
| 15 | NC (VDDF ) | VOUT_25 | I | Power for digital |
| 16 | P61/IRQ9 | GNDÅi10kÅj | O | Not used |
| 17 — 20 | ND | OPEN | - | Not used |
| 21 | VDDH | AL_3VSYS | I | Power for digital |
| 22 | VOUT | VOUT_25 | O | Power for VDD and VDDF |
| 23 | P14/D12 | HOUSING_IN | O | Housing control |
| 24 | P03/D3 | HOUSING2_SW | I | HW2/mini cassette eject switchs |
| 25 | P07/D7 | END_SEL_2 | O | End sensor sensibility |
| 26 | P13/D11 | HOUSING_SW | I | Housing control |
| 27 | P20/D16/SBIB | CLN_SOL | O | Cleaner solenoid drive |
| 28 | P22/D18/SBTB | MSD_RDY | O | For MS_BUS communication |
| 29 | P32/D26/SBO2 | LED_1SW | O | Front panel LED 1 |
| 30 | VDDH | AL_3VSYS | I | Power for digital |
| 31 | VSS | D_GND | - | GND for digital |
| 32 | P53/IRQ3 | GND (10k) | O | Not used |
| 33 | P25/D21/SBT0 | MIC_3 | O | CLK for cassette MIC communication |
| 34 | P33/D27/SBT2 | EEPR_CS | O | For EEPROM communication |
| 35 | P63/IRQ11 | GND (10k) | O | Not used |
| 36 | ND | OPEN | - | Not used |
| 37 | ND | OPEN | - | Not used |
| 38 | PU1/WE3/SRAS | OPEN | O | Not used |
| 39 | LON | AL_3VSYS (1k ) | I | Use for regulator |
| 40 | NMIRQ | AL_3VSYS | O | Not used |
| 41 | VDDH | AL_3VSYS | I | Power for digital |
| 42 | P04/D4 | START_SEL_1 | O | Standard sensor sensibility selection |
| 43 | P06/D6 | END_SEL_1 | O | End sensor sensibility selection |
| 44 | P15/D13 | HOUSING_OUT | O | Housing control |
| 45 | P17/D15 | CAP_BRK | O | MDA control |
| 46 | NC (VSS) | D_GND | - | GND for digital |
| 47 | P23/D19/SBI0 | MIC_1 | O | For cassette MIC communication |
| 48 | P31/D25/SBI2 | LED_2_SW | O | Front panel LED2 |
| 49 | P37/D31/PWM0 | CAP_REF | O | CAP_REF (MDA) |
| 50 | P41/PWM2/TM1IO | MECHA_REF | O | Mode/Housing motor control voltage |
| 51 | P43/PWM4 | OPEN | O | Not used |
| 52 | P34/D28/SBI3 | MS_OUT | I | Data for MS_VUS communication |
| 53 | P54/IRQ4 | GND (10k) | O | Not used |

| Pin No. | Port Name | Reference | I/O | Description |
|---|---|---|---|---|
| 54 | P62/IRQ10 | GND | O | Not used |
| 55 | P80/ICR0 | DRUM_FG | I | DRUM_FG |
| 56 | P81/ICR1 | CAP_FG | I | CAP_FG |
| 57 | PT2/SBT9 | OPEN | O | Not used |
| 58 | PS1/SBO4 | MDA_IN | O | For MDA communication |
| 59 | PU0/WE2/SCAS | OPEN | O | Not used |
| 60 | PS3/SBI5 | OPEN | O | Not used |
| 61 | VOUT | VOUT_25 | O | Power for VDD and VDDF |
| 62 | P00/D0 | TAPE_LED | O | For TAPE_LED |
| 63 | VSS | D_GND | - | GND for digital |
| 64 | VDDH | AL_3VSYS | I | Power for digital |
| 65 | P16/D14 | MECHA_VM_CTL | O | Switching the MECHA VM |
| 66 | P24/D20/SBO0 | MIC_2 | O | For cassette MIC communication |
| 67 | VSS | D_GND | - | GND for digital |
| 68 | P42/PWM3/TM2IO | REEL_REF | O | Reel motor control voltage |
| 69 | P55/IRQ5 | GND (10k) | O | Not used |
| 70 | P52/IRQ2 | DRUM_PG | I | DRUM_PG |
| 71 | P56/IRQ6 | GND(10k) | O | Not used |
| 72 | P84/ICR4 | SUP_REEL_SENSOR | I | SUP_REEL_SENSOR |
| 73 | VSS | D_GND | - | GND for digital |
| 74 | P60/IRQ8 | GND (10k) | O | Not used |
| 75 | P83/ICR3 | TU_REEL_SENSOR | I | TU_REEL_SENSOR |
| 76 | PS4/SBO5 | OPEN | O | Not used |
| 77 | PT0/SBI9 | OPEN | O | Not used |
| 78 | PR4/A23/KI4/SDCLKO | GND (10k) | O | Not used |
| 79 | PS5/SBT5 | OPEN | O | Not used |
| 80 | PT1/SBO9 | OPEN | O | Not used |
| 81 | VSS | D_GND | - | GND for digital |
| 82 | P02/D2 | SP_LOCK_SW | I | SP lock detection switch |
| 83 | P10/D8 | REEL_BRK | O | Reel motor brake |
| 84 | P12/D10 | CASETTE_SW | I | CASSETTE SW |
| 85 | P21/D17/SBOB | A_MUTE | O | Audio mute |
| 86 | P27/D23/SBO1 | EEPR_SDO | O | EEPROM communication |
| 87 | P36/D30/SBT3 | MS_CLK | I | CLK for MS_BUS communication |
| 88 | P50/IRQ0 | MSD CS | I | MSD CS |
| 89 | ND | OPEN | - | Not used |
| 90 | P90/ICR8 | FRP | I | Interface with IC103 |
| 91 | P82/ICR2 | REEL_FG | I | Reel FG input |
| 92 | P86/ICR6 | SRV_FRP | I | Interface with IC103 |
| 93 | P85/ICR5 | HID1 | I | Interface with IC103 |
| 94 | P87/ICR7 | DET_VD | I | Analog input detection |
| 95 | PR6/A25/KI6 | GND (10k) | O | Not used |
| 96 | PS2/SBT4 | MDA_CLK | O | For MDA communication |
| 97 | VDDH | AL_3VSYS | I | Power for digital |
| 98 | VSS | D_GND | - | GND for digital |
| 99 — 108 | ND | OPEN | - | Not used |
| 109 | NC (VSS) | D_GND | - | GND for digital |
| 110 | VDD2 | AL_3VSYS | I | Power for digital |
| 111 | P92/ICR10 | SPA | I | Interface with IC103 |
| 112 | VSS | D_GND | - | GND for digital |

| Pin No. | Port Name | Reference | I/O | Description |
|---|---|---|---|---|
| 113 | P91/ICR9 | TSR | I | Interface with IC103 |
| 114 | PR3/A22/KI3/SCKE | GND (10k) | O | Not used |
| 115 | PR5/A24/KI5/SDCLKI | GND (10k) | O | Not used |
| 116 | PQ2/A18 | DV_RST | O | Interface with IC103 |
| 117 | PS0/SBI4 | MDA_CS | O | For MDA communication |
| 118 | PR7/KI7/PWM5 | GND (10k) | O | Not used |
| 119 — 127 | ND | OPEN | - | Not used |
| 128 | PA1/SBO6 | OPEN | O | Not used |
| 129 | P94/ICR12 | SRV_TRK | I | Interface with IC103 |
| 130 | PA3/SBI7 | OPEN | O | Not used |
| 131 | PA0/SBI6 | OPEN | O | Not used |
| 132 | PA2/SBT6 | OPEN | O | Not used |
| 133 | PQ1/A17 | CLK27SEL | O | Interface with IC103 |
| 134 | PR0/A19/KI0 | GND (10k) | O | Not used |
| 135 | PQ0/A16 | NTSC_L | I | NTSC_L |
| 136 | PR2/A21/KI2/SWE | GND (10k) | O | Not used |
| 137 | PR1/A20/KI1 | GND (10k) | O | Not used |
| 138 — 146 | ND | OPEN | - | Not used |
| 147 | PB3/WDOVF | OPEN | O | Not used |
| 148 | P93/ICR11 | OUT_V | I | MVD0 (DVSYS) |
| 149 | PA5/SBT7 | OPEN | O | Not used |
| 150 | PA4/SBO7 | OPEN | O | Not used |
| 151 | PB2/IRQ14 | OPEN | O | Not used |
| 152 | VSS | D_GND | - | GND for digital |
| 153 | PL5/PWM6 | OPEN | O | Not used |
| 154 | PL4/TM7IO | V_MUTE | I | V MUTE (DVSYS) |
| 155 | PL3/TM6IO | OPEN | O | Not used |
| 156 | PL2/TM5IO | SCR_UD | O | Not used |
| 157 — 165 | ND | OPEN | - | Not used |
| 166 | PC3/SY0OT3 | OPEN | - | Not used |
| 167 | PB0/IRQ12 | OPEN | O | Not used |
| 168 | PB1/IRQ13 | INV | I | ODD/EVEN distinguish |
| 169 | PB4/BR | OPEN | O | Not used |
| 170 | VSS | D_GND | - | GND for digital |
| 171 | PL0/TM3IO | OPEN | O | Not used |
| 172 | PK6/TM36IO | HID3 | O | Interface with IC1 |
| 173 | PL1/TM4IO | SCR_LR | O | Not used |
| 174 | PK4/TM34IO | PBH | O | Interface with IC1 |
| 175 | PK3/TM33IO | REEL_LED | O | TU_REEL_LED |
| 176 — 184 | ND | OPEN | - | Not used |
| 185 | PC5/SY1OT1/SBO8 | OPEN | O | Not used |
| 186 | PC0/SY0OT0 | HID1 | O | TO P/R IC1 |
| 187 | PB5/BG | OPEN | O | Not used |
| 188 | PC2/SY0OT2 | OPEN | - | Not used |
| 189 | PC4/SY1OT0/SBI8 | OPEN | I | Not used |
| 190 | OSCI | Supply the external clock | I | 40MHz |
| 191 | PK2/TM32IO | REC_SAFE | I | REC_SAFTY_SW |
| 192 | PK0/TM30IO | OPEN | O | Not used |
| 193 | VDD | VOUT_25 | I | Power for digital |
| 194 | VSS | D_GND | - | GND for digital |

| Pin No. | Port Name | Reference | I/O | Description |
|---|---|---|---|---|
| 195 — 203 | ND | OPEN | - | Not used |
| 204 | VSS | D_GND | - | GND for digital |
| 205 | PD0/TM10IO | OPEN | O | Not used |
| 206 | PC1/SY0OT1 | OPEN | - | Not used |
| 207 | VDD2 | AL_3VSYS | I | Power for digital |
| 208 | PC6/SY1OT2/SBT8 | OPEN | - | Not used |
| 209 | OSCO | | O | 40MHz |
| 210 | FRQS | VTR_TAUX | I | For rewrite |
| 211 | PK7/TM37IO | MONI_CHG | O | Interface with P/R |
| 212 | CKSEL | VTR_TTxD | I | For rewrite |
| 213 | MMOD1 | VTR_TCK | I | For rewrite |
| 214 — 222 | ND | OPEN | - | Not used |
| 223 | NC (VSS) | D_GND | - | GND for digital |
| 224 | PE1/TM20IOB | GND (10k) | O | Not used |
| 225 | PC7/SY1OT3 | OPEN | - | Not used |
| 226 | PD3/TM13IO | OPEN | O | Not used |
| 227 | PD2/TM12IO | OPEN | O | Not used |
| 228 | MMOD0 | VTR_TRXD | I | For rewrite |
| 229 | PJ1/EXMOD1 | VTR_TAUX3 | I | For rewrite |
| 230 | PK5/TM35IO | REC_H | O | Interface with P/R |
| 231 | VDDH | AL_3VSYS | I | Power for digital |
| 232 | PVSS | A_GND | I | GND for analog |
| 233 — 241 | ND | OPEN | - | Not used |
| 242 | VDD | VOUT_25 | I | Power for digital |
| 243 | PE7/TM23IOB | GND (10k) | O | Not used |
| 244 | PD1/TM11IO | OPEN | O | Not used |
| 245 | PE3/TM21IOB | FFREW_H | O | Not used |
| 246 | PD5/TM15IO | OPEN | O | Not used |
| 247 | PVDD | AL_3VSYS | I | Power for analog |
| 248 | PP7/ADM15/A15 | ADM15 | I/O | Interface with IC103 |
| 249 | PK1/TM31IO | OPEN | O | Not used |
| 250 | RST | VTR_RESET | I | For rewrite |
| 251 — 261 | ND | OPEN | - | Not used |
| 262 | PE4/TM22IOA | GND (10k) | O | Not used |
| 263 | PD4/TM14IO | OPEN | O | Not used |
| 264 | PE5/TM22IOB | GND (10k) | O | Not used |
| 265 | VDD2 | AL_3VSYS | I | Power for digital |
| 266 | PP5/ADM13/A13 | ADM13 | I/O | Interface with IC103 |
| 267 | PP3/ADM11/A11 | ADM11 | I/O | Interface with IC103 |
| 268 | PP4/ADM12/A12 | ADM12 | I/O | Interface with IC103 |
| 269 | VSS | D_GND | - | GND for digital |
| 270 | VSS | D_GND | - | GND for digital |
| 271 | ND | OPEN | - | Not used |
| 272 | VDD | VOUT_25 | I | Power for digital |
| 273 | VSS | D_GND | - | GND for digital |
| 274 | P70/AN24 | GND (10k) | - | Not used |
| 275 | PI6/AN22 | GND (10k) | - | Not used |
| 276 | PI0/AN16 | GND (10k) | - | Not used |
| 277 | PH0/AN8 | THERM_MSD | I | Temperature sensor |
| 278 | PG0/AN0 | START_SENSOR | I | START_SENSOR |

| Pin No. | Port Name | Reference | I/O | Description |
|---|---|---|---|---|
| 279 | ND | OPEN | - | Not used |
| 280 | TRST | VSS (10k) | - | Not used |
| 281 | PF0/TM24IOA | OPEN | O | Not used |
| 282 | PE2/TM21IOA | DRUM_FG | O | DRUM_FG |
| 283 | PE0/TM20IOA | GND (10k) | O | Not used |
| 284 | PF1/TM24IOB | OPEN | O | Not used |
| 285 | PP1/ADM9/A9 | ADM9 | I/O | Interface with 3.5LSI |
| 286 | PJ0/EXMOD0 | GND (10k) | I | Memory mode selection |
| 287 | PO4/ADM4/A4 | ADM4 | I/O | Interface with IC103 |
| 288 | PO7/ADM7/A7 | ADM7 | I/O | Interface with IC103 |
| 289 | PO1/ADM1/A1 | ADM1 | I/O | Interface with IC103 |
| 290 | PN5/AS | DALE | O | Interface with IC103 |
| 291 | PN4/DK | DV_WAIT | I | Interface with IC103 |
| 292 | PM4/CS4 | OPEN | O | Not used |
| 293 | VDDB | AL_3VSYS | I | Power for digital |
| 294 | PI4/AN20 | GND (10k) | - | Not used |
| 295 | PI1/AN17 | GND (10k) | - | Not used |
| 296 | PH1/AN9 | REEL_CURENT | I | Reel motor current |
| 297 | PG1/AN1 | END_SENSOR | I | E_SENSOR |
| 298 | VREFH | AL_3VSYS (for analog) | I | A/D GND (H) |
| 299 | VDD | VOUT_25 | I | Power for digital |
| 300 | TMS | VDD2 (10k) | - | Not used |
| 301 | PE6/TM23IOA | GND (10k) | O | Not used |
| 302 | PF2/TM25IOA | OPEN | O | Not used |
| 303 | PF3/TM25IOB | GND (10k) | O | Not used |
| 304 | PP0/ADM8/A8 | ADM8 | I/O | Interface with IC103 |
| 305 | PP6/ADM14/A14 | ADM14 | I/O | Interface with IC103 |
| 306 | PP2/ADM10/A10 | ADM10 | I/O | Interface with IC103 |
| 307 | PN3/RE | DRE | O | Interface with IC103 |
| 308 | PN1/WE1/SDQM1 | OPEN | O | Not used |
| 309 | PM2/CS2 | DV_CS | O | Interface with IC103 |
| 310 | PM5/RWSEL | RWSEL | O | Interface with IC103 |
| 311 | PM0/CS0 | OPEN | O | Not used |
| 312 | PI2/AN18 | GND (10k) | - | Not used |
| 313 | PH6/AN14 | EJECT_MSD | - | EJECT brings up |
| 314 | PH7/AN15 | GND (10k) | - | Not used |
| 315 | PH4/AN12 | GND (10k) | - | Not used |
| 316 | PH2/AN10 | REEL_ECR | I | Reference value for reel torque control |
| 317 | PG4/AN4 | MIC_2 | I | AD for MIC IDBOARD detection |
| 318 | PG2/AN2 | DEW_SENSOR | I | DEW_SENSOR |
| 319 | VREFL | A_GND | I | A/D GND (L) |
| 320 | PV1/SBOA | DAC_DATA | O | D/A control |
| 321 | TCK | VDD2 (10k) | - | Not used |
| 322 | TDI | VDD2 (10k) | - | Not used |
| 323 | ND | OPEN | - | Not used |
| 324 | ND | OPEN | - | Not used |
| 325 | VDDB | AL_3VSYS | I | Power for digital |
| 326 | PO2/ADM2/A2 | ADM2 | I/O | Interface with IC103 |
| 327 | PO5/ADM5/A5 | ADM5 | I/O | Interface with IC103 |
| 328 | VDD | VOUT_25 | I | Power for digital |

| Pin No. | Port Name | Reference | I/O | Description |
|---|---|---|---|---|
| 329 | VSS | D_GND | - | GND for digital |
| 330 | PN0/WE0/SDQM0 | DWE | O | Interface with IC103 |
| 331 | PM1/CS1 | OPEN | O | Not used |
| 332 | PI7/AN23 | GND (10k) | - | Not used |
| 333 | PI3/AN19 | GND (10k) | - | Not used |
| 334 | PH3/AN11 | HOUS_CURRENT | I | Tension sensor |
| 335 | PG5/AN5 | MIC_1 | I | AD for MIC IDBOARD detection |
| 336 | AVDD | AL_3VSYS | I | Power for analog |
| 337 | VSS | D_GND | - | GND for digital |
| 338 | PG6/AN6 | GND (10k) | - | Not used |
| 339 | PV2/SBTA | DAC_CLK | O | D/A control |
| 340 — 343 | ND | OPEN | - | Not used |
| 344 | PO6/ADM6/A6 | ADM6 | I/O | Interface with IC103 |
| 345 | PO3/ADM3/A3 | ADM3 | I/O | Interface with IC103 |
| 346 | VDDB | AL_3VSYS | I | Power for digital |
| 347 | PO0/ADM0/A0 | ADM0 | I/O | Interface with IC103 |
| 348 | PN2/SYSCLK | OPEN | O | Not used |
| 349 | PM3/CS3 | OPEN | O | Not used |
| 350 | VSS | D_GND | - | GND for digital |
| 351 | AVSS | A_GND | I | GND for analog |
| 352 | PI5/AN21 | GND (10k) | - | Not used |
| 353 | PH5/AN13 | GND (10k) | - | Not used |
| 354 | PG7/AN7 | MODE_SENS | I | Mode sensor (mecha position) |
| 355 | PG3/AN3 | MIC_3 | I | AD for MIC IDBOARD detection |
| 356 | PV3/ADTRG | AL_3VSYS | - | Not used |
| 357 | PV0/SBIA | DAC_CS | O | D/A control |
| 358 | TDO | OPEN | - | Not used |
| 359 — 360 | ND | OPEN | - | Not used |

**Table 4.3.3 MSD Terminal Function**

### 4.3.6 RS-422A command list

| COMMAND FROM CONTROLLER | | | | | RETURN FROM | | | |
|---|---|---|---|---|---|---|---|---|
| CMD -1 | Data Count | CMD -2 | DATA -1 | NAME | CMD -1 | Data Count | CMD -2 | NAME |
| 0 | 0 | 0C | - | Local Disable | 1 | 0 | 01 | ACK |
| 0 | 0 | 11 | - | Device Type Request | 1 | 2 | 11 | Device Type |
| 0 | 0 | 1D | - | Local Enable | 1 | 0 | 01 | ACK |
| 2 | 0 | 00 | - | Stop | 1 | 0 | 01 | ACK |
| 2 | 0 | 01 | - | Play | 1 | 0 | 01 | ACK |
| 2 | 0 | 02 | - | Rec | 1 | 0 | 01 | ACK |
| 2 | 0 | 03 | - | StillÄiJVC OnlyÄj | 1 | 0 | 01 | ACK |
| 2 | 0 | 04 | - | Standby Off | 1 | 0 | 01 | ACK |
| 2 | 0 | 05 | - | Standby On | 1 | 0 | 01 | ACK |
| 2 | 0 | 0F | - | Eject | 1 | 0 | 01 | ACK |
| 2 | 0 | 10 | - | Fast Fwd | 1 | 0 | 01 | ACK |
| 2 | X | 11 | - | Jog Fwd | 1 | 0 | 01 | ACK (Switch to shuttle) |
| 2 | X | 12 | - | Var Fwd | 1 | 0 | 01 | ACK (Switch to shuttle) |
| 2 | X | 13 | - | Shuttle Fwd | 1 | 0 | 01 | ACK |
| 2 | 0 | 20 | - | Rewind | 1 | 0 | 01 | ACK |
| 2 | X | 21 | - | Jog Rev | 1 | 0 | 01 | ACK (Switch to shuttle) |
| 2 | X | 22 | - | Var Rev | 1 | 0 | 01 | ACK (Switch to shuttle) |
| 2 | X | 23 | - | Shuttle Rev | 1 | 0 | 01 | ACK |
| 2 | 0 | 30 | - | Preroll | 1 | 0 | 01 | ACK |
| 2 | 4 | 31 | - | Cue Up With Data | 1 | 0 | 01 | ACK |
| 2 | 0 | 54 | - | Anti-clog Timer Disable | 1 | 0 | 01 | ACK |
| 2 | 0 | 55 | - | Anti-clog Timer Enable | 1 | 0 | 01 | ACK |
| 4 | 4 | 04 | - | Time Code Preset | 1 | 0 | 01 | ACK |
| 4 | 0 | 10 | - | In Entry | 1 | 0 | 01 | ACK |
| 4 | 4 | 14 | - | In Data Preset | 1 | 0 | 01 | ACK |
| 4 | 0 | 18 | - | In + Shift | 1 | 0 | 01 | ACK |
| 4 | 0 | 19 | - | In - Shift | 1 | 0 | 01 | ACK |
| 4 | 0 | 20 | - | In Reset | 1 | 0 | 01 | ACK |
| 4 | 0 | 24 | - | In Recall | 1 | 0 | 01 | ACK |
| 4 | 4 | 31 | - | Preroll Time Preset | 1 | 0 | 01 | ACK |
| 4 | X | 3E | - | Rec Inhibit Preset | 1 | 0 | 01 | ACK |
| 6 | 1 | 0A | 01 | TC Gen Data Sense | 7 | 4 | 08 | Gen Time Data |
| 6 | 1 | 0A | 10 | TC Gen Data Sense | 7 | 4 | 09 | Gen UB Data (UB: Fix to 0) |
| 6 | 1 | 0A | 11 | TC Gen Data Sense | 7 | 8 | 08 | Gen TC & UB Data (UB: Fix to 0) |
| 6 | 1 | 0C | 01 | Current Time Sense | 7 | 4 | 04 | TC (main) Data |
| 6 | 1 | 0C | 02 | Current Time Sense | 7 | 4 | 06 | TC (main) Data |
| 6 | 1 | 0C | 03 | Current Time Sense | 7 | 4 | 04 | TC (main) Data |
| 6 | 1 | 0C | 10 | Current Time Sense | 7 | 4 | 05 | UB (main) Data (UB: Fix to 0) |
| 6 | 1 | 0C | 11 | Current Time Sense | 7 | 8 | 04 | TC & UB (main) Data (UB: Fix to 0) |
| 6 | 1 | 0C | 20 | Current Time Sense | 7 | 4 | 07 | UB (main) Data (UB: Fix to 0) |
| 6 | 1 | 0C | 22 | Current Time Sense | 7 | 8 | 06 | TC & UB (main) Data (UB: Fix to 0) |
| 6 | 1 | 0C | 30 | Current Time Sense | 7 | 4 | 05 | UB (main) Data (UB: Fix to 0) |
| 6 | 1 | 0C | 33 | Current Time Sense | 7 | 8 | 04 | TC & UB (main) Data (UB: Fix to 0) |
| 6 | 0 | 10 | - | In Data Sense | 7 | 4 | 10 | In Data |
| 6 | 1 | 20 | - | Status Sense | 7 | X | 20 | Status Data |
| 6 | 0 | 2B | - | Remain Time Sense | 7 | 6 | 2B | Remain Data |
| 6 | 0 | 31 | - | Preroll Time Sense | 7 | 3 | 31 | Preroll Time Data |
| 6 | 0 | 36 | - | Timer Mode Sense | 7 | 1 | 36 | Timer Mode Data |
| 6 | 0 | 3E | - | Rec Inhibit Sense | 7 | 2 | 3E | Rec Inhibit Status |

**Table 4.3.4 RS-422A Command List**

# SECTION 5

# BLOCK DIAGRAMS
# SCHEMATIC DIAGRAMS
# CIRCUIT BOARD DIAGRAMS

**NOTE:**
BE SURE TO MAKE YOUR ORDERS OF REPLACEMENT PARTS ACCORDING TO PARTS LIST, SECTION 6

**CAUTION**

THE ▭ MARK INDICATES THE PRIMARY CIRCUIT TO DISTINGUISH THE PRIMARY FROM THE SECONDARY CIRCUIT.
PAY ATTENTION NOT TO RECEIVE AN ELECTRIC SHOCK DURING REPAIR AND SERVICE OF THE PRODUCTS.

**IMPORTANT SAFETY NOTICE:**
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

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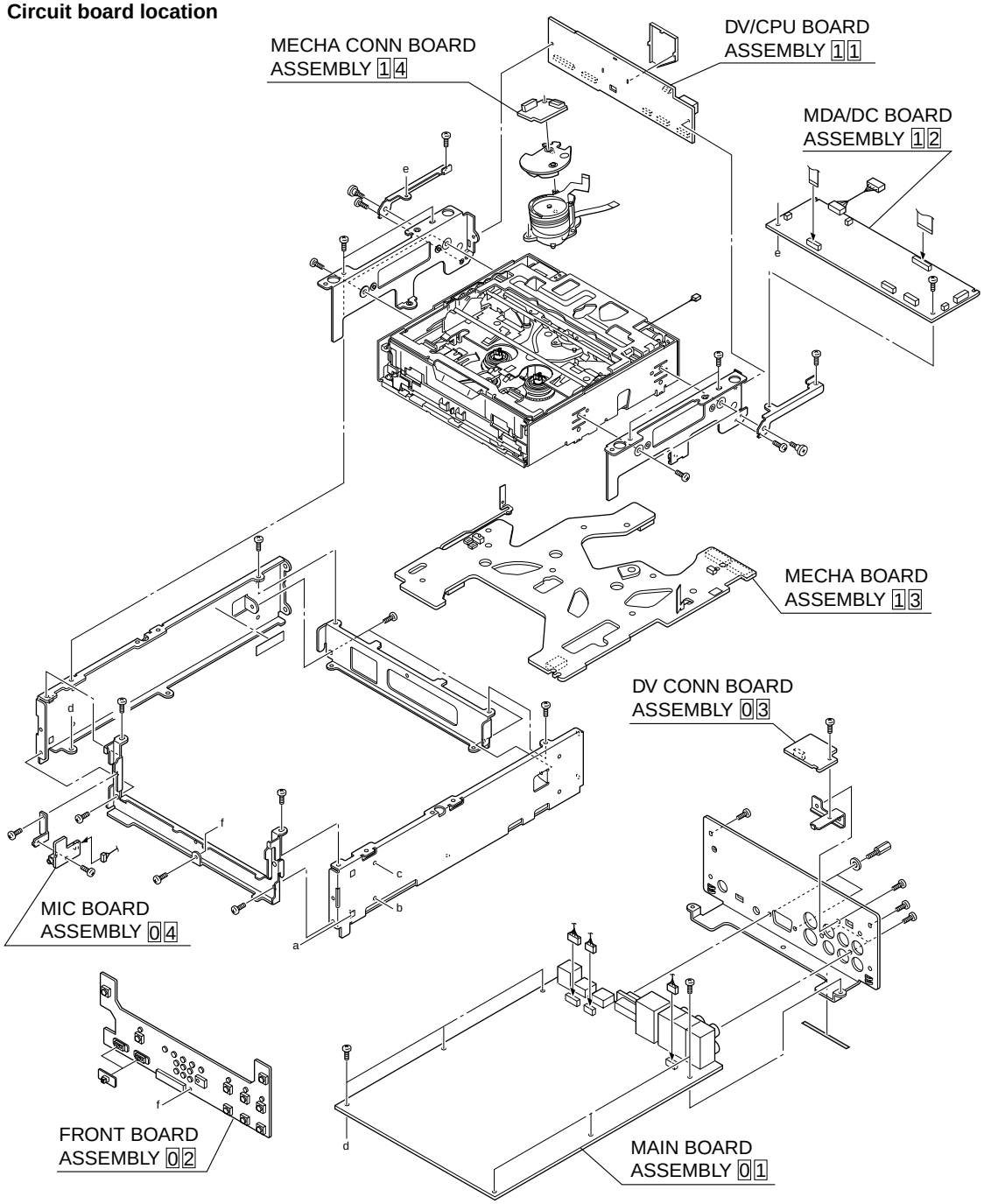
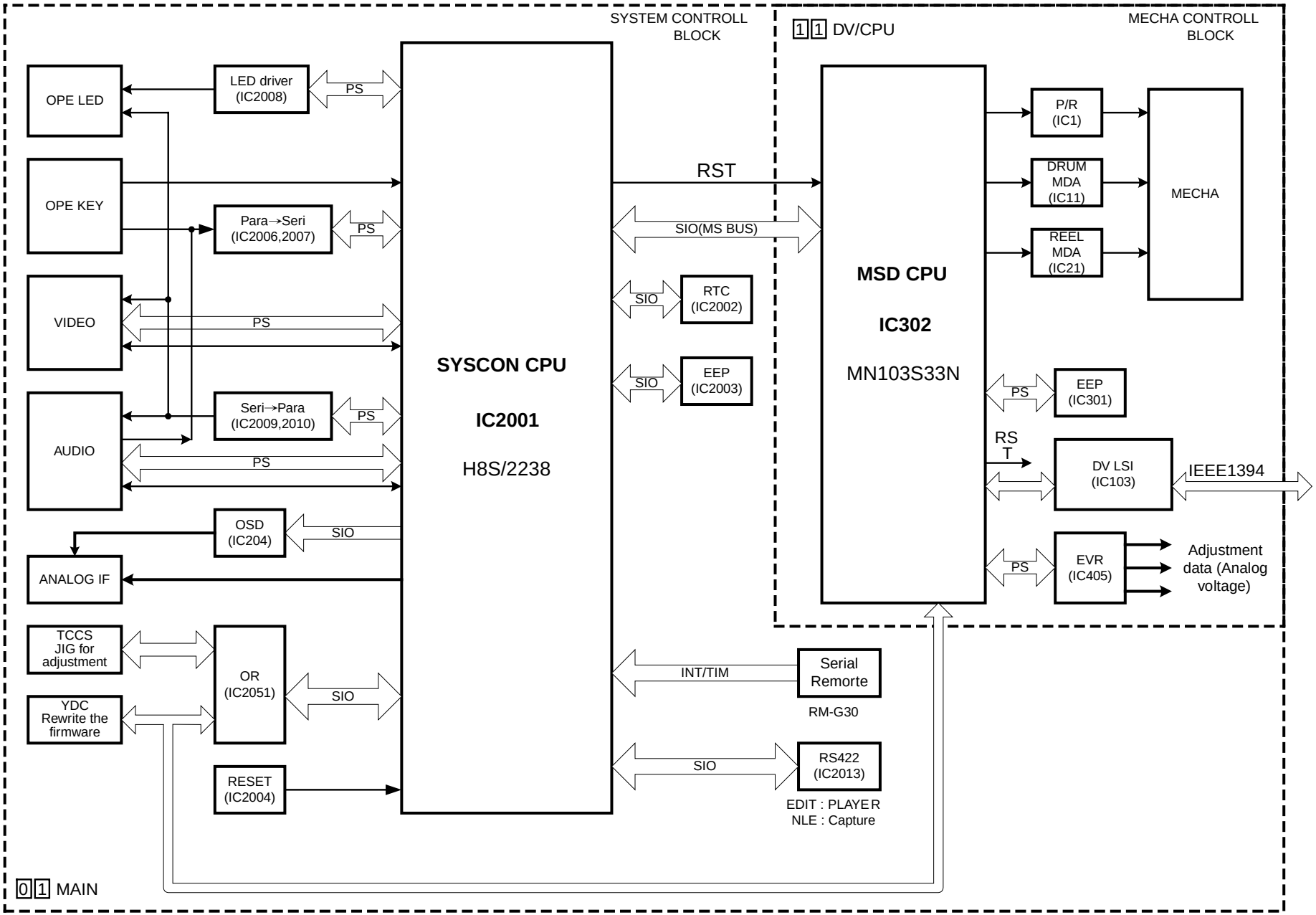
## 5.1 INDEX TO PAGES OF MAIN BOARDS AND CIRCUIT BOARD LOCATION

### 5.1.1 Circuit board location

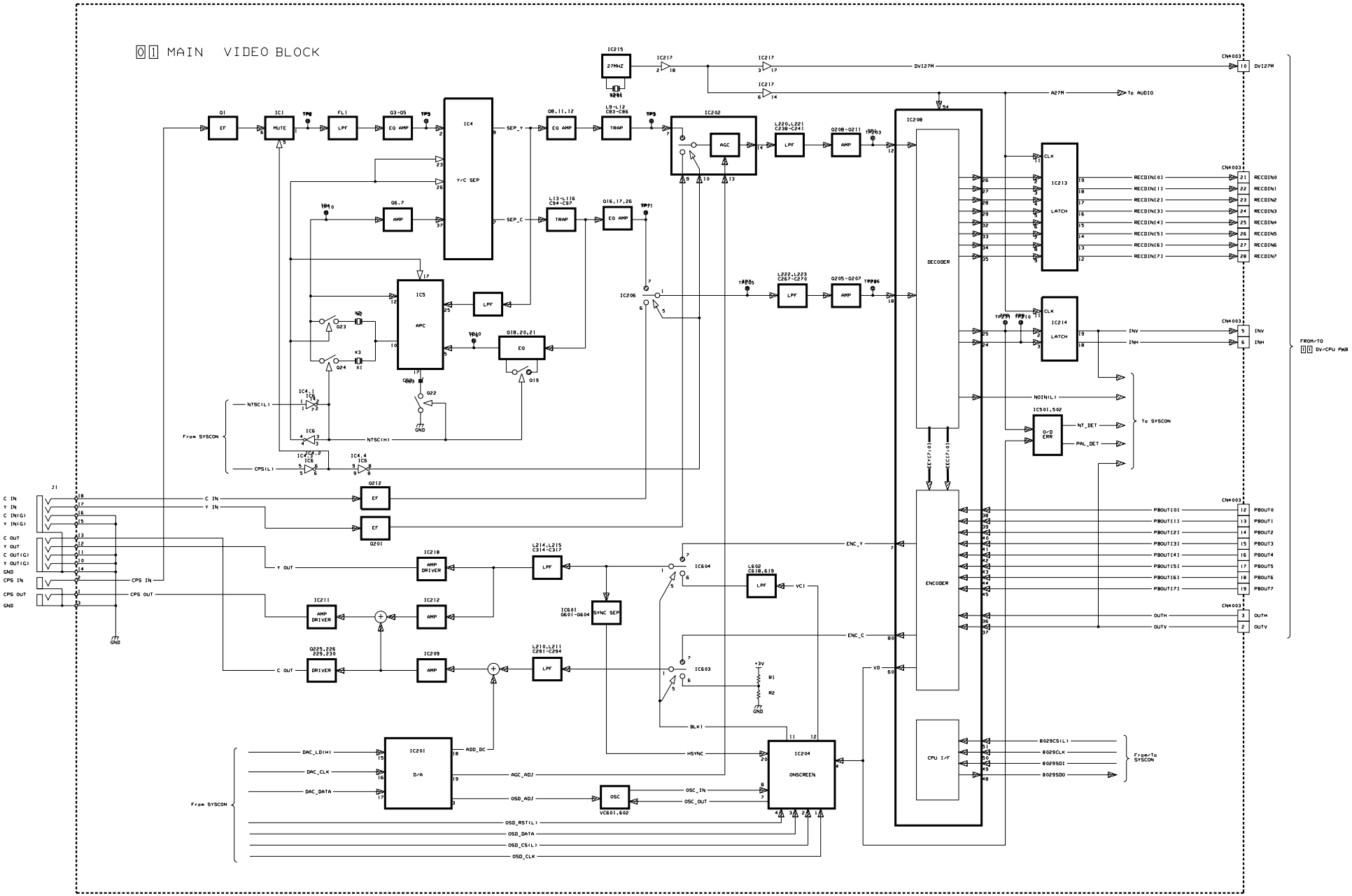



| Board No. | Board Name | Page of diagram | | |
|---|---|---|---|---|
| | | Block diagram | Schematic diagram | Circuit board |
| 01 | MAIN | 5-2, 5-3, 5-4 | 5-7 to 5-12 | 5-13, 5-14 |
| 02 | FRONT | — | 5-25 | 5-26 |
| 03 | DV CONN | — | 5-25 | 5-26 |
| 04 | MIC | 5-4 | 5-25 | 5-26 |
| 11 | DV/CPU | 5-2, 5-4 | 5-15 to 5-18 | 5-19 |
| 12 | MDA/DC | — | 5-21 to 5-24 | 5-20 |
| 13 | MECHA | — | 5-27 | 5-28, 5-29 |
| 14 | MECHA CONN | — | 5-27 | 5-29 |

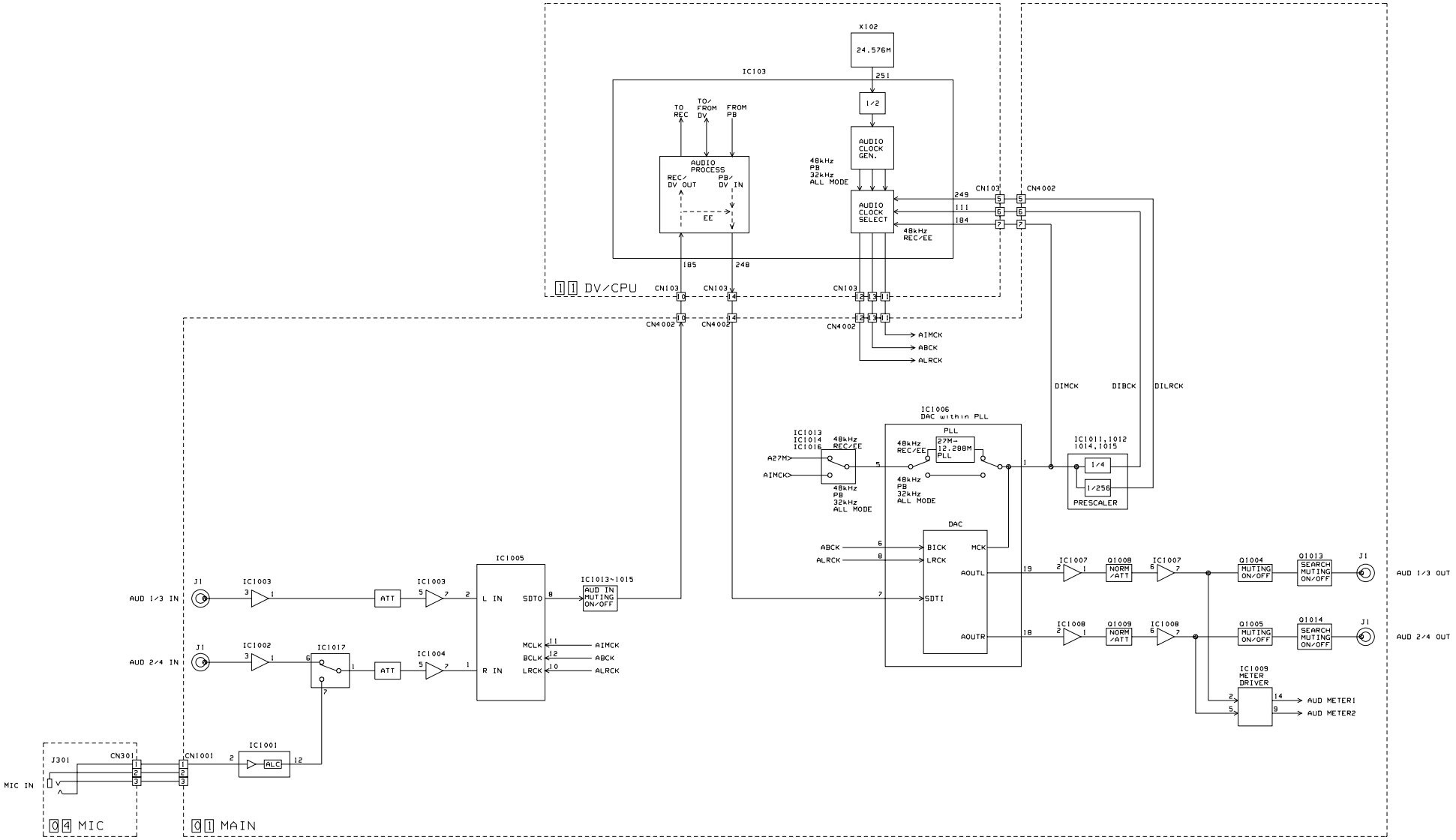
## 5.2 SYSTEM CONTROL BLOCK DIAGRAM



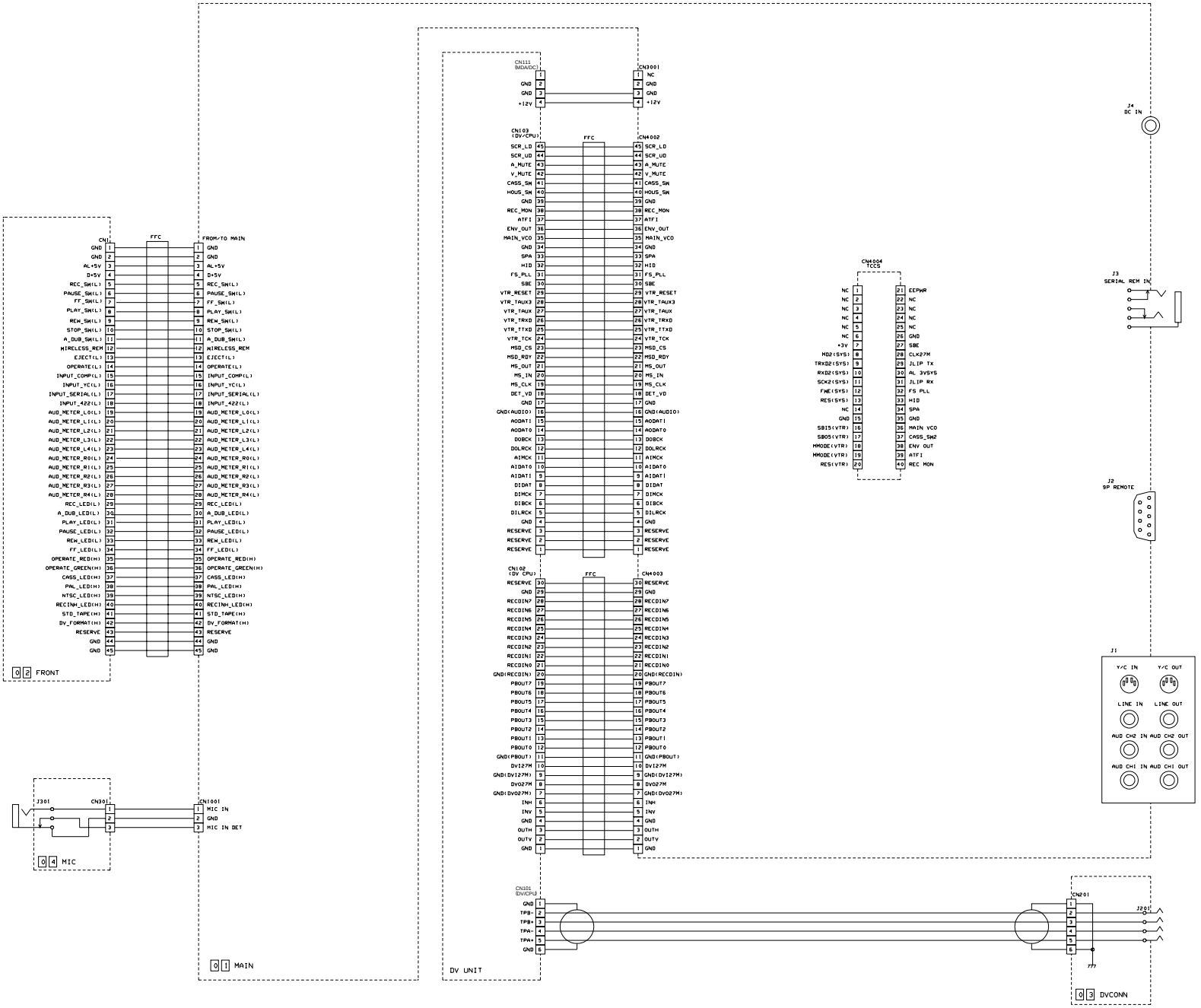
## 5.3 VIDEO BLOCK DIAGRAM



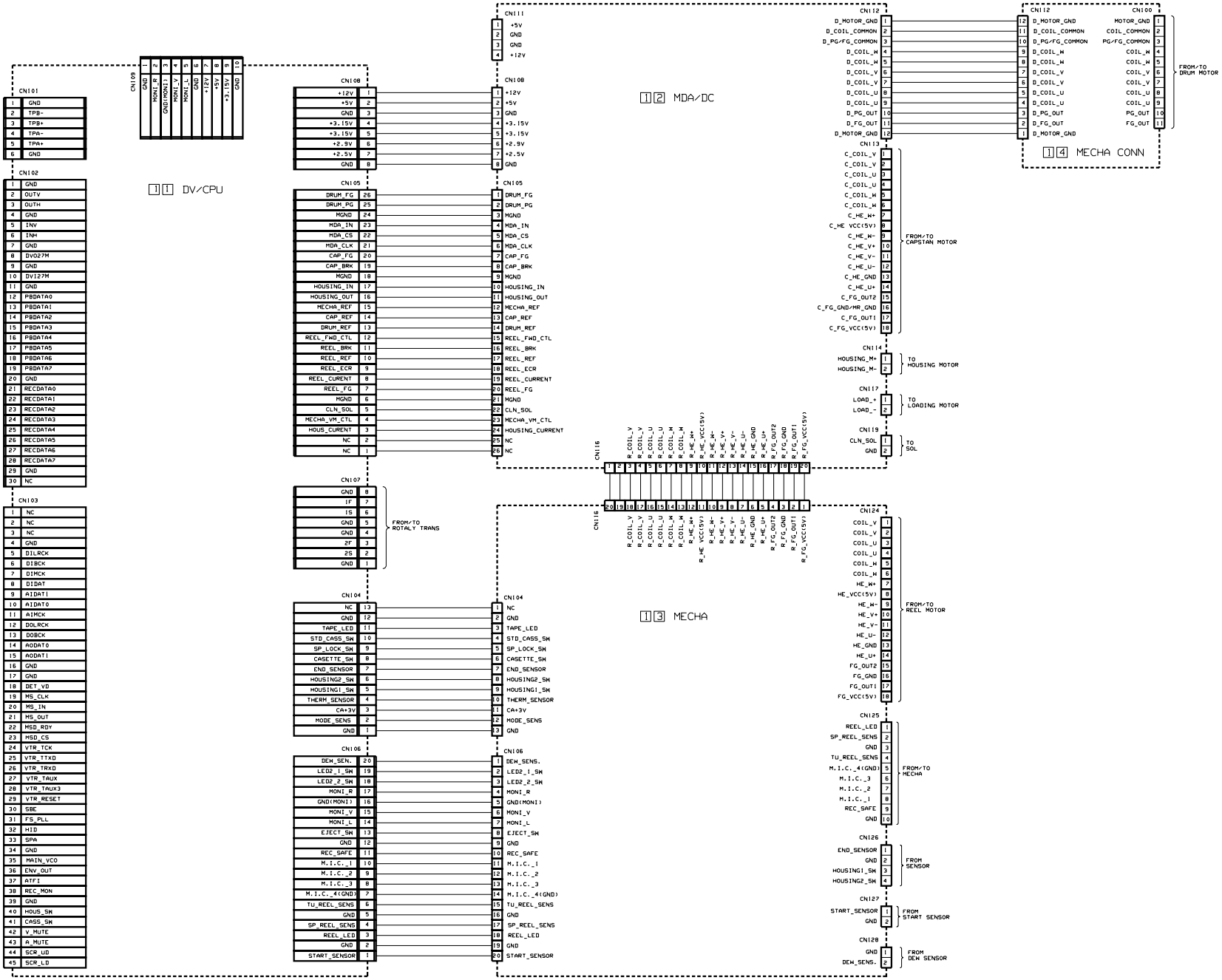
## 5.4 AUDIO BLOCK DIAGRAM



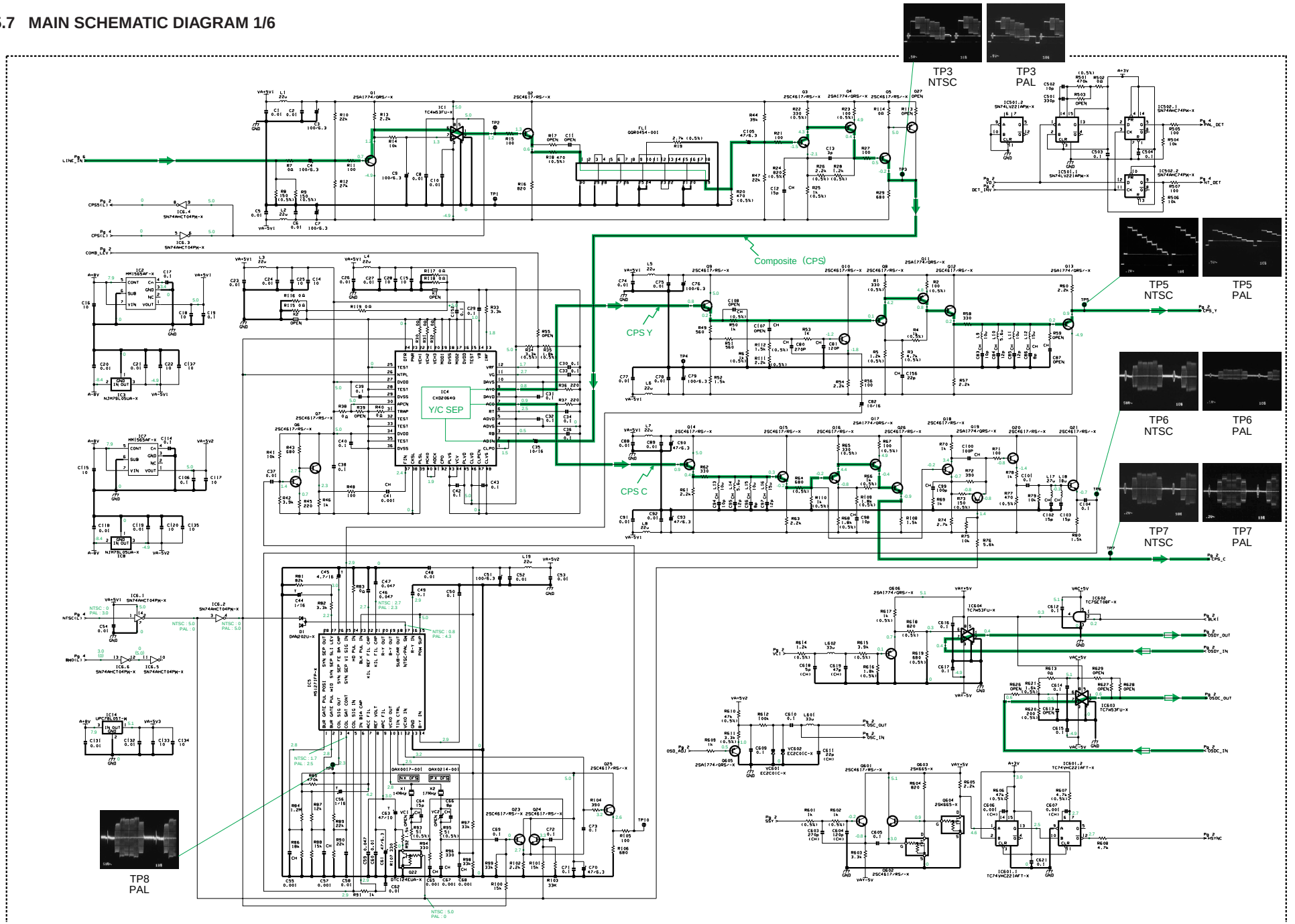
# 5.5 OVERALL WIRING DIAGRAM



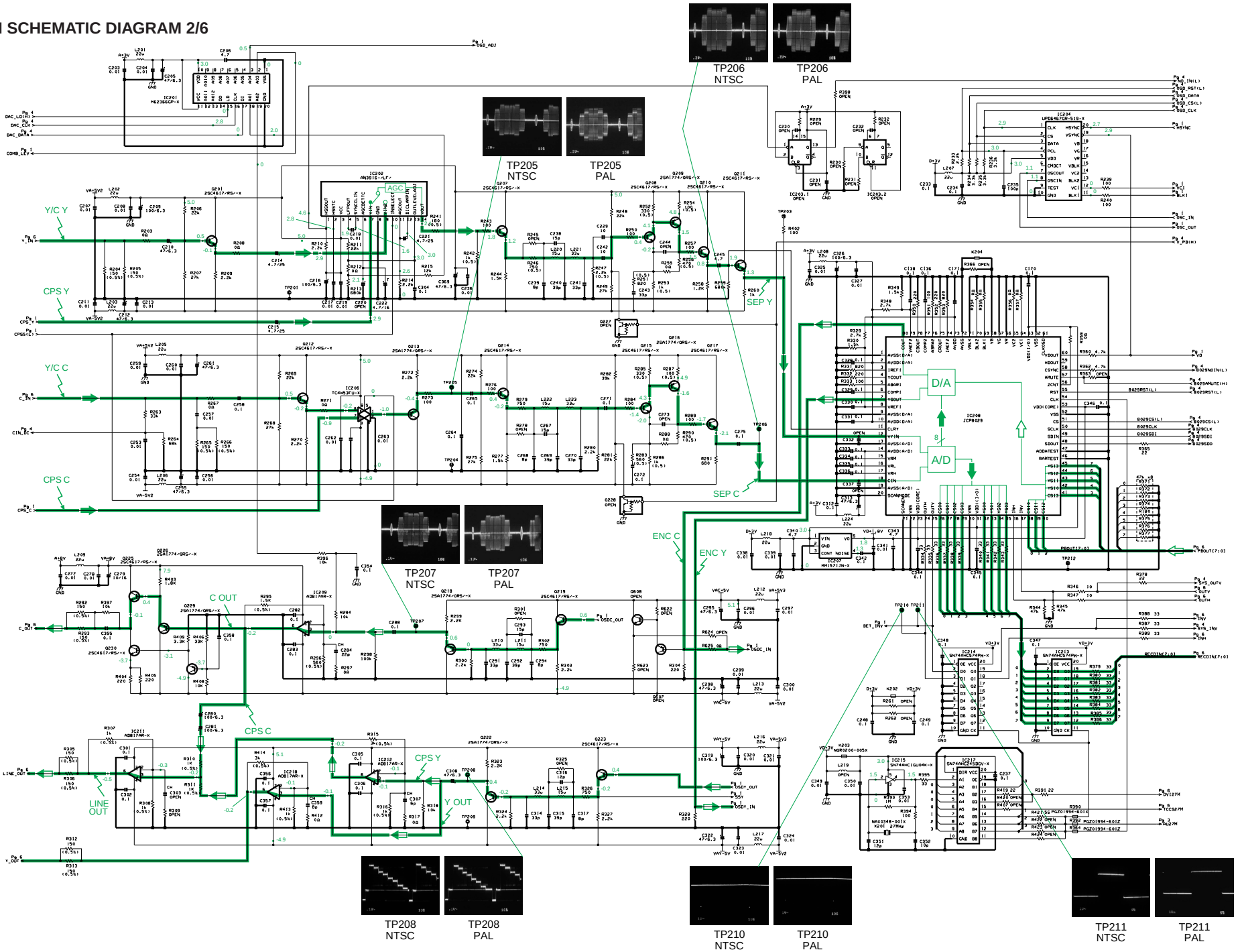
## 5.6 DV UNIT OVERALL WIRING DIAGRAM



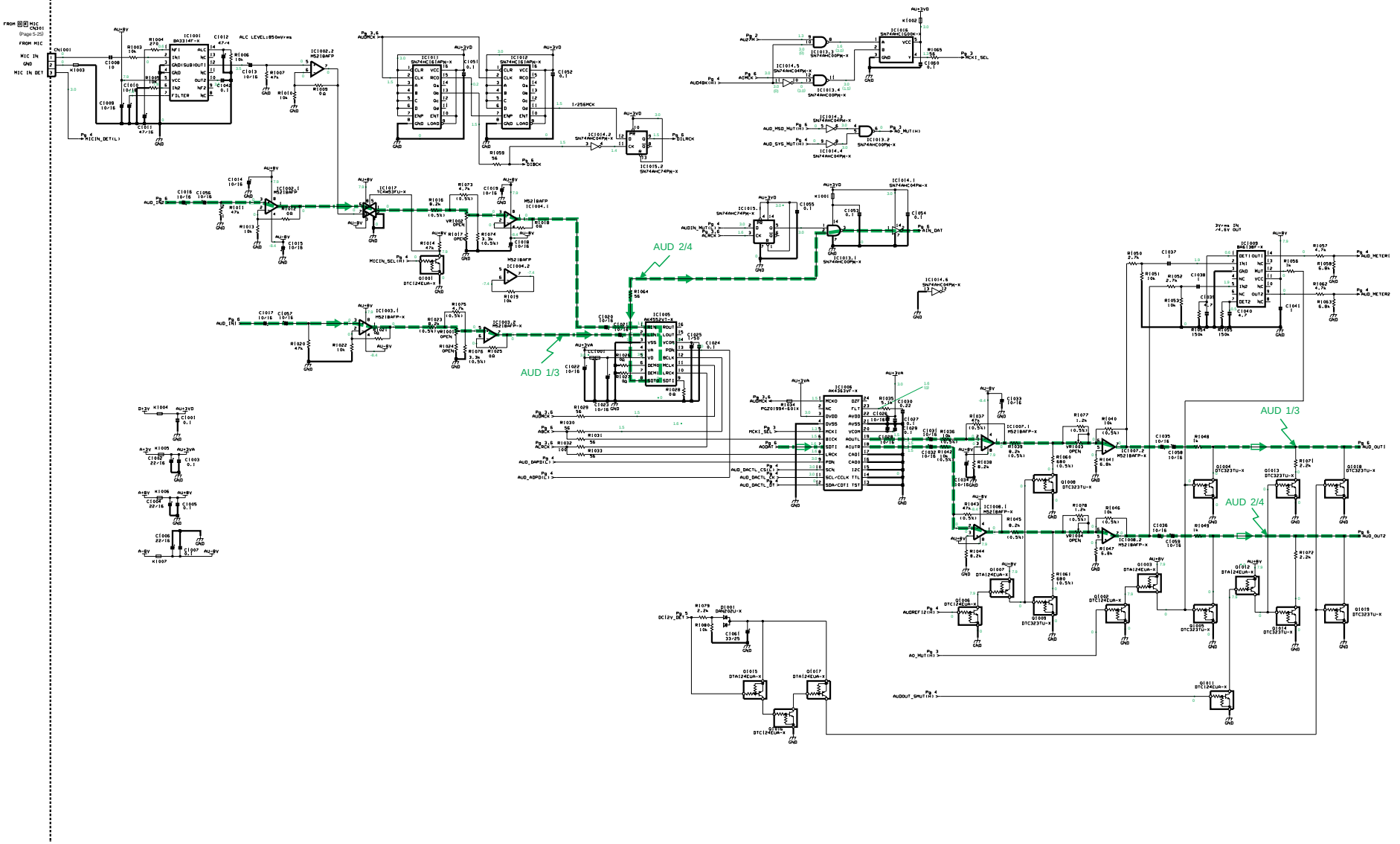
# 5.7 MAIN SCHEMATIC DIAGRAM 1/6



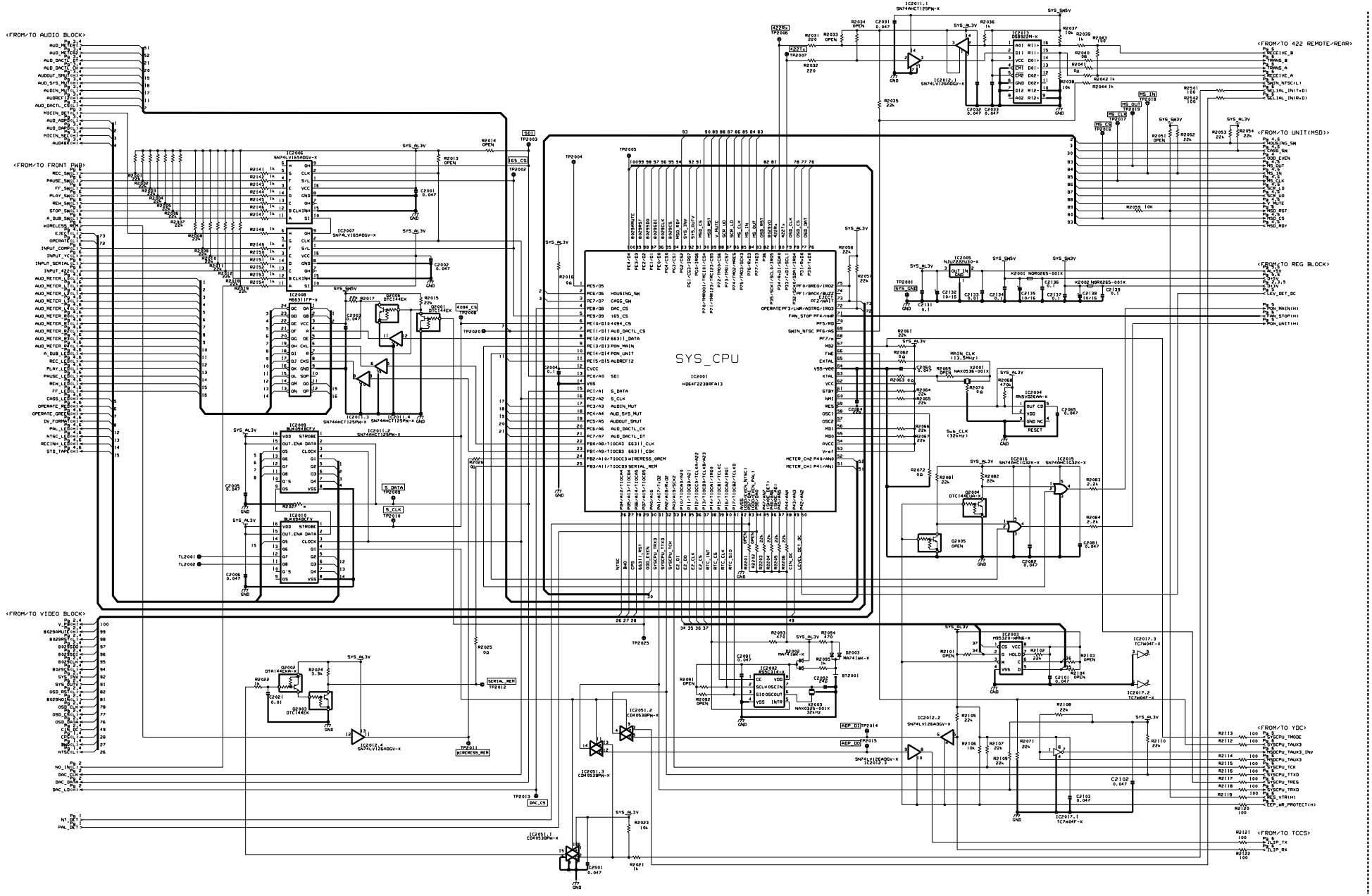
## MAIN SCHEMATIC DIAGRAM 2/6



# MAIN SCHEMATIC DIAGRAM 3/6



## MAIN SCHEMATIC DIAGRAM 4/6



# MAIN SCHEMATIC DIAGRAM 5/6

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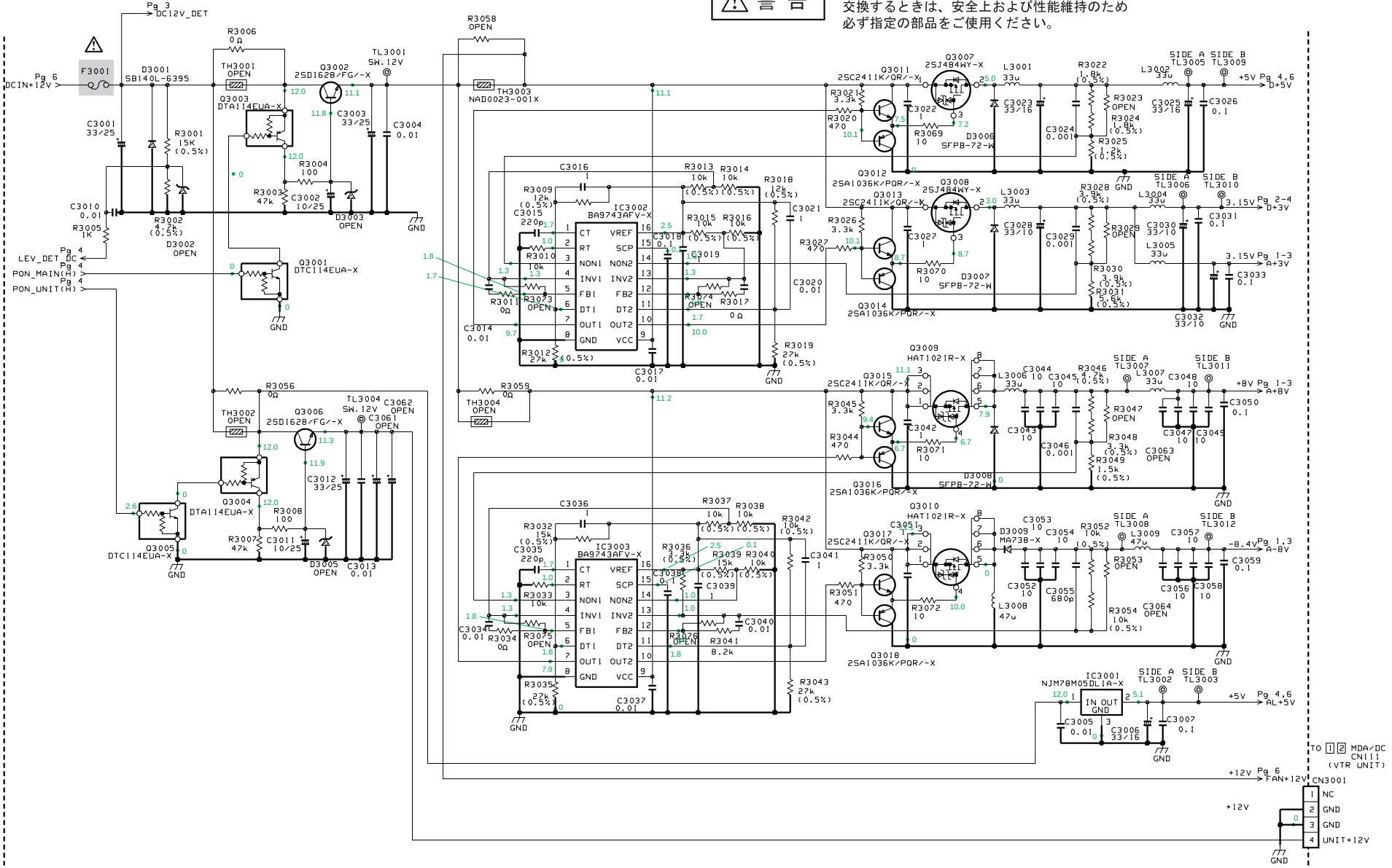
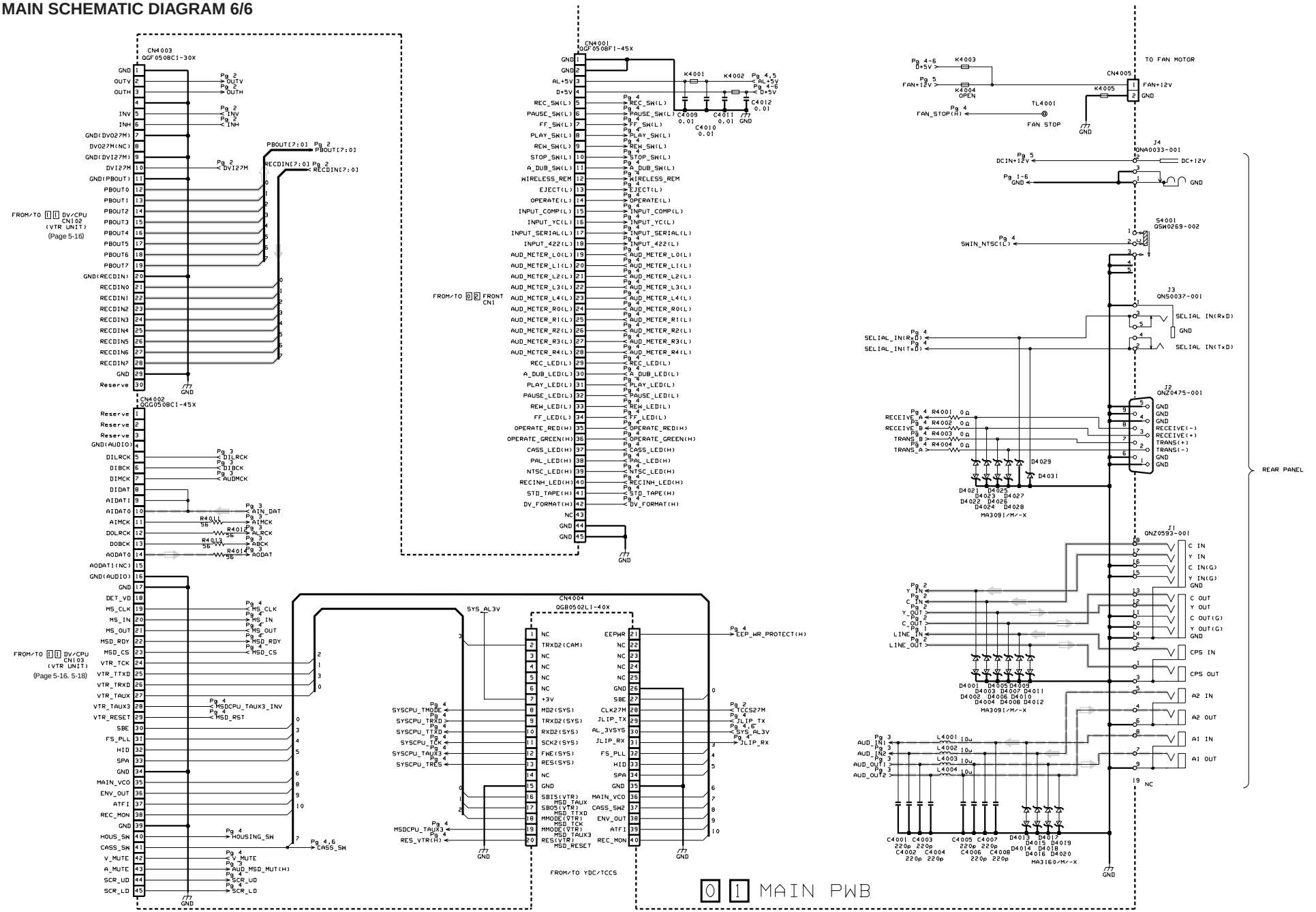
⚠ 警 告

⚠ 印の部品は安全上重要な部品です。
交換するときは、安全上および性能維持のため
必ず指定の部品をご使用ください。

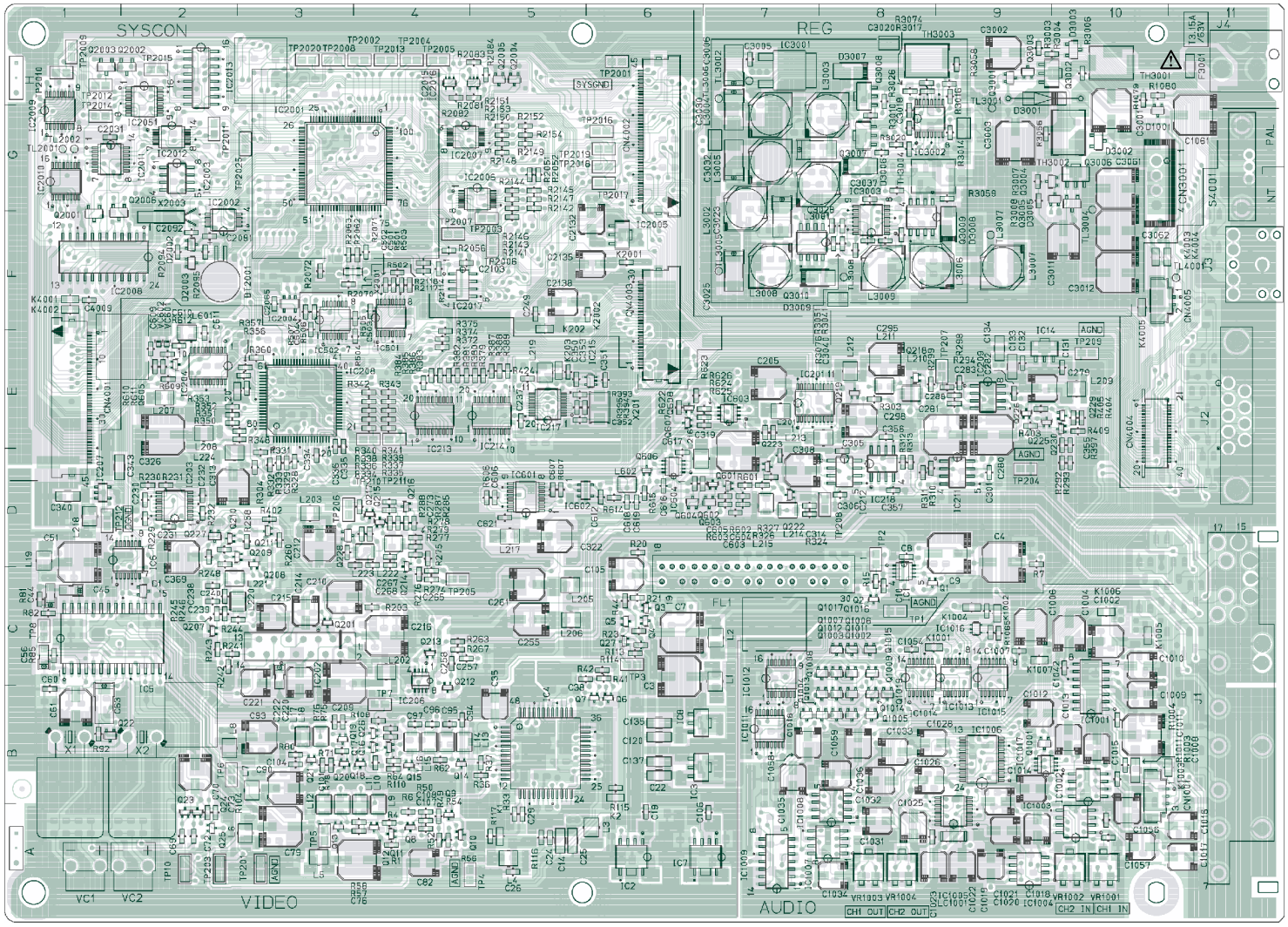


## MAIN SCHEMATIC DIAGRAM 6/6



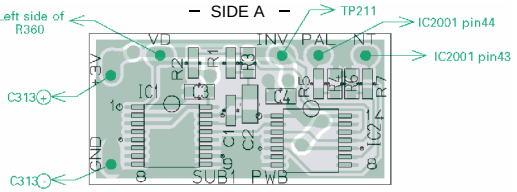
# 5.8 MAIN CIRCUIT BOARD

– SIDE A –




– SUB1 CIRCUIT BOARD –

– SIDE A –

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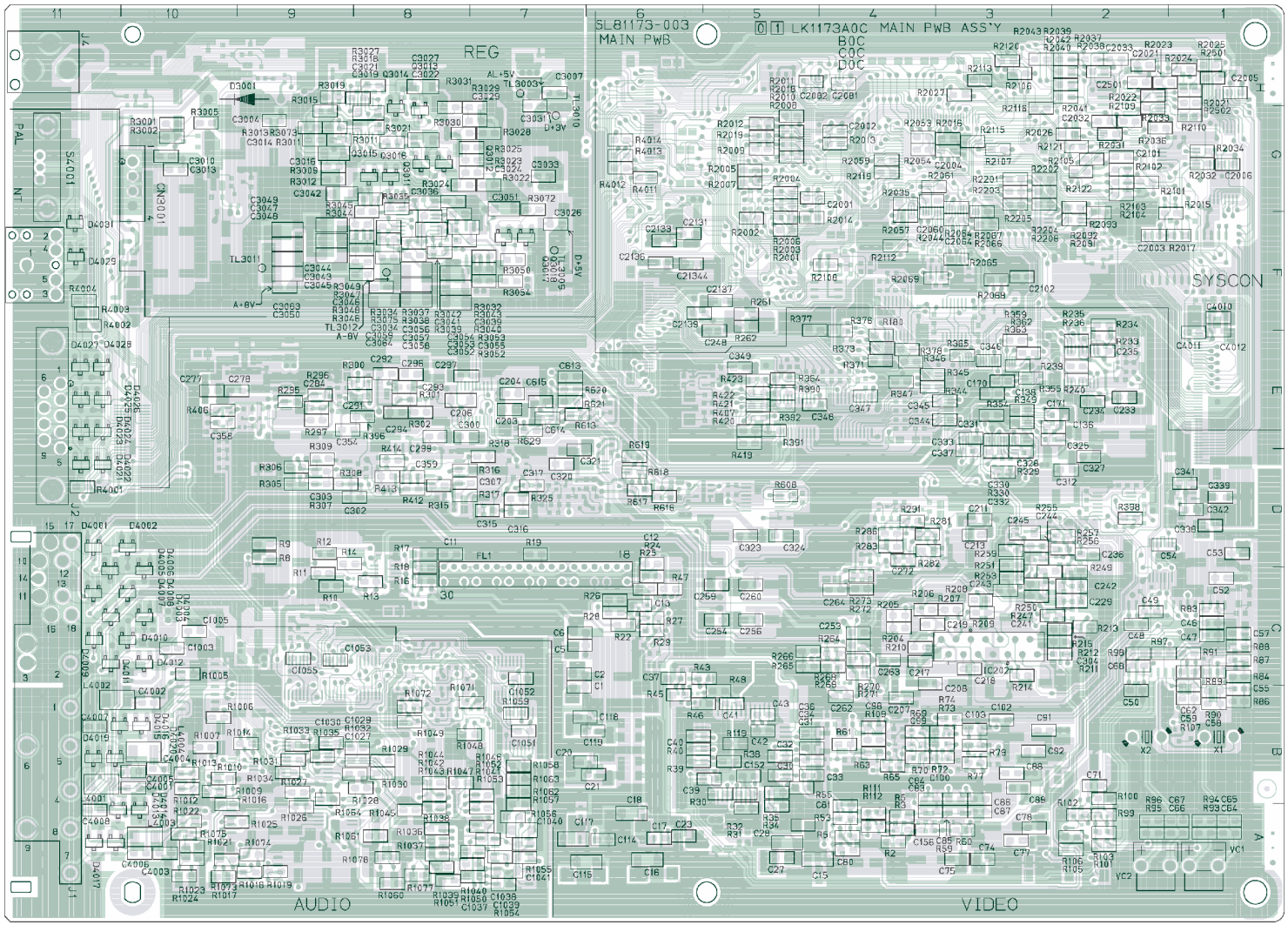
⚠ 印の部品は安全上重要な部品です。
交換するときは、安全上および性能維持のため
必ず指定の部品をご使用ください。

● ADDRESS TABLE OF BOARD PARTS
Each address may have an address error by one interval.

Side A-1C (Y axis / X axis)

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IC1 | A-8D | Q605 | A-1E | R31 | B-5A | R248 | A-2D | R379 | A-4E | R1052 | B-7A |
| IC2 | A-5A | Q606 | A-6D | R32 | B-5B | R249 | B-2D | R380 | A-4E | R1053 | B-7A |
| IC3 | A-4E | Q607 | A-4E | R33 | A-4A | R250 | B-2D | R381 | A-4E | R1054 | B-7A |
| IC4 | A-5B | Q608 | A-6E | R34 | B-4B | R251 | B-2D | R382 | A-4E | R1055 | B-7A |
| IC5 | A-1C | Q1001 | A-9B | R35 | B-4B | R252 | A-2D | R383 | A-4E | R1056 | B-7A |
| IC6 | A-1D | Q1002 | A-8B | R36 | A-4B | R253 | B-2D | R384 | A-4E | R1057 | B-7B |
| IC7 | A-6A | Q1003 | A-7B | R37 | A-4B | R254 | A-2D | R385 | A-4E | R1058 | B-7B |
| IC8 | A-6B | Q1004 | A-7B | R38 | B-5B | R255 | B-2D | R386 | A-4E | R1059 | B-7B |
| IC14 | A-9E | Q1005 | A-8B | R39 | B-5B | R256 | B-2D | R387 | A-4E | R1060 | B-8A |
| IC201 | A-7E | Q1006 | A-8C | R40 | B-5B | R257 | B-2D | R388 | A-4E | R1061 | B-8A |
| IC202 | A-3C | Q1007 | A-7C | R41 | A-5C | R258 | A-2D | R389 | A-4E | R1062 | B-7B |
| IC203 | A-1D | Q1008 | A-7C | R42 | A-5C | R259 | B-2D | R390 | B-4E | R1063 | B-7B |
| IC204 | A-2E | Q1009 | A-8C | R43 | B-5C | R260 | A-2D | R391 | B-4E | R1064 | B-9B |
| IC206 | A-4C | Q1011 | A-8B | R44 | A-5C | R261 | B-5F | R392 | B-4E | R1065 | A-9C |
| IC207 | A-1D | Q1012 | A-7B | R45 | B-5B | R262 | B-5F | R393 | A-5E | R1071 | B-7B |
| IC208 | A-2E | Q1013 | A-7B | R46 | B-5B | R263 | A-4C | R394 | A-5E | R1072 | B-8B |
| IC209 | A-9E | Q1014 | A-8B | R47 | B-5C | R264 | B-4C | R395 | A-5E | R1073 | B-9A |
| IC211 | A-8D | Q1015 | A-8C | R48 | B-5C | R265 | B-4C | R396 | B-8E | R1074 | B-9A |
| IC212 | A-7D | Q1016 | A-8C | R49 | A-4A | R266 | B-4C | R397 | A-10E | R1075 | B-10A |
| IC213 | A-4E | Q1017 | A-7C | R50 | A-4A | R267 | A-4C | R398 | B-1D | R1076 | A-10A |
| IC214 | A-4E | Q1018 | A-7B | R51 | B-4A | R268 | B-4C | R402 | A-2D | R1077 | B-8A |
| IC215 | A-5E | Q1019 | A-8B | R52 | A-4A | R269 | B-4C | R403 | A-9E | R1078 | B-8A |
| IC217 | A-5E | Q2001 | A-1G | R53 | B-4A | R270 | B-4C | R404 | A-10E | R1079 | A-10H |
| IC218 | A-8D | Q2002 | A-1H | R54 | A-4A | R271 | B-4C | R405 | A-10E | R1080 | A-10H |
| IC501 | A-3F | Q2003 | A-1H | R55 | B-4B | R272 | B-4C | R406 | B-9E | R2001 | B-4G |
| IC502 | A-3F | Q3001 | A-9H | R56 | A-4A | R273 | B-4C | R407 | B-9E | R2002 | B-5G |
| IC601 | A-5F | Q2005 | A-4H | R57 | A-3A | R274 | A-4D | R408 | A-9E | R2003 | B-4G |
| IC602 | A-5D | Q2006 | A-1G | R58 | A-3A | R275 | A-4D | R409 | A-10E | R2004 | B-4G |
| IC603 | A-6E | Q3001 | A-9H | R59 | B-3A | R276 | A-4D | R412 | B-8D | R2005 | B-5G |
| IC604 | A-6D | Q3002 | A-9H | R60 | B-3A | R277 | A-3D | R413 | B-8D | R2006 | B-4G |
| IC1001 | A-10C | Q3003 | A-9H | R61 | B-4B | R278 | A-3D | R414 | B-8E | R2007 | B-5G |
| IC1002 | A-10B | Q3004 | A-9G | R62 | A-4B | R279 | A-3D | R419 | B-5E | R2008 | B-4G |
| IC1003 | A-10A | Q3005 | A-9G | R63 | B-3B | R280 | A-3D | R420 | B-5E | R2009 | B-5G |
| IC1004 | A-9A | Q3006 | A-10G | R64 | A-3B | R281 | B-3D | R421 | B-5E | R2010 | B-4G |
| IC1005 | A-8A | Q3007 | A-8G | R65 | B-3B | R282 | B-3D | R422 | B-5E | R2011 | B-4H |
| IC1006 | A-9B | Q3008 | A-8H | R66 | A-3B | R283 | B-3D | R423 | B-5E | R2012 | B-5G |
| IC1007 | A-7A | Q3009 | A-8G | R67 | A-3B | R284 | A-3D | R424 | A-5E | R2013 | B-4G |
| IC1008 | A-7B | Q3010 | A-7F | R68 | A-3B | R285 | A-3D | R501 | A-3F | R2014 | B-4G |
| IC1009 | A-7A | Q3011 | B-8G | R69 | B-3B | R286 | B-3D | R502 | A-3F | R2015 | B-1G |
| IC1011 | A-7B | Q3012 | B-7G | R70 | B-3B | R287 | A-3D | R503 | A-3F | R2016 | B-3G |
| IC1012 | A-7C | Q3013 | B-8H | R71 | A-3B | R288 | A-3D | R504 | A-3F | R2017 | B-1F |
| IC1013 | A-8C | Q3014 | B-8H | R72 | B-3B | R289 | A-3D | R505 | A-3F | R2018 | B-4G |
| IC1014 | A-9C | Q3015 | B-8G | R73 | B-3B | R290 | A-3D | R506 | A-3F | R2019 | B-5G |
| IC1015 | A-9C | Q3016 | B-8G | R74 | B-3B | R291 | B-3D | R507 | A-2F | R2021 | B-1H |
| IC1016 | A-9C | Q3017 | B-7F | R75 | A-3B | R292 | A-9E | R601 | A-7D | R2022 | B-1H |
| IC1017 | A-9B | Q3018 | B-7F | R76 | A-3B | R293 | A-10E | R602 | A-7D | R2023 | B-1H |
| IC2001 | A-5E | | | R77 | B-3B | R294 | A-9E | R603 | A-6D | R2024 | B-1H |
| IC2002 | A-2G | D1 | A-1C | R78 | A-3B | R295 | B-9E | R604 | A-6D | R2025 | B-1H |
| IC2003 | A-1G | D1001 | A-10H | R79 | B-3B | R296 | B-9E | R605 | A-6D | R2026 | B-2G |
| IC2004 | A-2F | D2002 | A-1F | R80 | A-2B | R297 | B-9E | R606 | A-4D | R2027 | B-3H |
| IC2005 | A-5F | D2003 | A-1F | R81 | A-1C | R298 | A-9E | R607 | A-5D | R2031 | B-1G |
| IC2006 | A-4G | D3001 | A-10H | R82 | A-1C | R299 | A-8E | R608 | B-4D | R2032 | B-1G |
| IC2007 | A-4G | D3002 | A-10G | R83 | B-1C | R300 | B-8E | R609 | A-1E | R2033 | B-1G |
| IC2008 | A-1F | D3003 | A-10H | R84 | B-1C | R301 | B-8E | R610 | A-1E | R2034 | B-1G |
| IC2009 | A-1H | D3005 | A-10G | R85 | A-1C | R302 | B-8E | R611 | A-1E | R2035 | B-3G |
| IC2010 | A-1G | D3006 | A-8G | R86 | B-1B | R303 | A-8E | R612 | A-1E | R2036 | B-1G |
| IC2011 | A-1G | D3007 | A-7H | R87 | B-1C | R304 | A-2D | R613 | B-6E | R2037 | B-1H |
| IC2012 | A-1G | D3008 | A-8G | R88 | B-1C | R305 | B-9D | R614 | A-5D | R2038 | B-1H |
| IC2013 | A-2H | D3009 | A-7F | R89 | B-1C | R306 | B-9D | R615 | A-6D | R2039 | B-2H |
| IC2015 | A-4H | D4001 | B-11D | R90 | B-1C | R307 | B-9D | R616 | B-5D | R2040 | B-2H |
| IC2016 | A-4H | D4002 | B-10D | R91 | B-1C | R308 | B-8D | R617 | B-6D | R2041 | B-2H |
| IC2017 | A-4F | D4003 | B-11C | R92 | A-1B | R309 | B-9E | R618 | B-6D | R2042 | B-2H |
| IC2051 | A-1H | D4004 | B-10C | R93 | B-1A | R310 | A-8D | R619 | B-6E | R2043 | B-2H |
| IC3001 | A-7H | D4005 | B-11D | R94 | B-1A | R311 | A-8D | R620 | B-6E | R2044 | B-3G |
| IC3002 | A-8H | D4006 | B-10D | R95 | B-1A | R312 | A-8E | R621 | B-6E | R2051 | A-5G |
| IC3003 | A-8G | D4007 | B-11C | R96 | B-1A | R313 | A-8E | R622 | A-6E | R2052 | A-5G |
| | | D4008 | B-10C | R97 | B-1C | R315 | B-7D | R623 | A-6E | R2053 | B-3G |
| Q1 | A-8C | D4009 | B-11C | R98 | B-1C | R316 | B-7D | R624 | A-6E | R2054 | B-3G |
| Q2 | A-8C | D4010 | B-10C | R99 | B-1A | R317 | B-7D | R625 | A-6E | R2056 | A-4F |
| Q3 | A-4C | D4011 | B-11C | R100 | B-1B | R318 | B-7E | R626 | A-4E | R2057 | B-3G |
| Q4 | A-6C | D4012 | B-10C | R101 | B-1A | R323 | A-7E | R627 | A-7E | R2059 | B-3G |
| Q5 | A-5C | D4013 | B-10A | R102 | B-2A | R324 | A-7D | R628 | A-7E | R2061 | B-3G |
| Q6 | A-5B | D4014 | B-10A | R103 | B-1A | R325 | B-7D | R629 | B-7E | R2062 | A-3F |
| Q7 | A-5B | D4015 | B-10B | R104 | A-2A | R326 | A-7D | R1003 | A-10B | R2063 | A-3F |
| Q8 | A-3A | D4016 | B-10B | R105 | B-2A | R327 | A-7D | R1004 | A-10B | R2064 | B-3G |
| Q9 | A-4A | D4017 | B-11A | R106 | B-2A | R328 | A-2E | R1005 | B-10C | R2065 | B-3F |
| Q10 | A-4B | D4018 | B-10A | R107 | B-1B | R329 | A-2E | R1006 | B-10B | R2066 | B-2G |
| Q11 | A-3A | D4019 | B-11B | R108 | A-3B | R330 | B-2E | R1007 | B-10B | R2067 | B-2G |
| Q12 | A-3A | D4020 | B-10B | R109 | B-3B | R331 | A-2E | R1009 | B-10B | R2068 | B-2F |
| Q13 | A-4D | D4021 | B-11D | R110 | A-3B | R332 | A-2D | R1010 | B-9B | R2069 | B-3F |
| Q14 | A-4B | D4022 | B-11D | R111 | B-3A | R333 | A-2E | R1011 | A-10B | R2070 | A-3F |
| Q15 | A-3B | D4023 | B-11E | R112 | B-3A | R334 | A-3E | R1012 | B-10B | R2071 | A-3F |
| Q16 | A-4B | D4024 | B-11E | R113 | A-6C | R335 | A-3E | R1013 | B-10B | R2072 | A-3F |
| Q17 | A-3B | D4025 | B-11E | R114 | A-6C | R336 | A-3E | R1014 | B-9B | R2081 | A-4H |
| Q18 | A-3B | D4026 | B-11E | R115 | A-5B | R337 | A-3E | R1016 | B-9B | R2082 | A-4H |
| Q19 | A-3B | D4027 | B-11E | R116 | A-5A | R338 | A-3E | R1017 | B-9A | R2083 | A-4H |
| Q20 | A-3B | D4028 | B-11E | R117 | A-4A | R339 | A-3E | R1018 | B-9A | R2084 | A-4H |
| Q21 | A-3B | D4029 | B-11F | R118 | B-4A | R340 | A-3E | R1019 | B-9A | R2091 | B-2G |
| Q22 | A-1B | D4031 | B-11G | R119 | B-5B | R341 | A-3E | R1020 | A-10A | R2092 | B-2G |
| Q23 | A-1A | | | R120 | B-3F | R342 | A-3E | R1021 | B-10A | R2093 | B-1G |
| Q24 | A-1A | R1 | A-3A | R203 | A-3C | R343 | A-3E | R1022 | B-10A | R2094 | A-1F |
| Q25 | A-2A | R2 | B-3A | R204 | B-3C | R344 | B-3E | R1023 | B-10A | R2095 | A-2F |
| Q26 | A-3B | R3 | B-3A | R205 | B-3C | R345 | B-3E | R1024 | B-10A | R2101 | B-1G |
| Q27 | A-5C | R4 | A-3A | R206 | B-3C | R346 | B-3E | R1025 | B-9A | R2102 | B-1G |
| Q201 | A-3C | R5 | B-3A | R207 | B-3C | R347 | B-3E | R1026 | B-9B | R2103 | B-1G |
| Q207 | A-2C | R6 | A-3A | R208 | B-2C | R348 | A-2E | R1027 | B-9B | R2104 | B-1G |
| Q208 | A-2D | R7 | A-9D | R209 | B-2C | R349 | B-2E | R1028 | B-8B | R2105 | B-1G |
| Q209 | A-2D | R8 | B-9D | R210 | B-3C | R350 | A-2E | R1029 | B-8B | R2106 | B-2H |
| Q210 | A-2D | R9 | B-9D | R211 | B-2C | R351 | A-2E | R1030 | B-8B | R2107 | B-2G |
| Q211 | A-2D | R10 | B-8C | R212 | B-2C | R352 | A-2E | R1031 | B-9B | R2108 | B-4F |
| Q212 | A-4C | R11 | B-9D | R213 | B-2C | R353 | A-2E | R1032 | B-8B | R2109 | B-1H |
| Q213 | A-4C | R12 | B-9D | R214 | B-2C | R354 | B-2E | R1033 | B-9B | R2110 | B-1H |
| Q214 | A-3D | R13 | B-8C | R215 | B-2C | R355 | B-2E | R1034 | B-9B | R2112 | B-3F |
| Q215 | A-3D | R14 | B-8D | R229 | A-1D | R356 | A-2E | R1035 | B-9B | R2113 | B-3H |
| Q216 | A-3D | R15 | A-8C | R230 | A-1D | R357 | A-2E | R1036 | B-8A | R2114 | A-4F |
| Q217 | A-3D | R16 | B-8C | R231 | A-1D | R359 | B-2F | R1037 | B-8A | R2115 | B-3G |
| Q218 | A-8E | R17 | B-8D | R232 | A-2D | R360 | A-2E | R1038 | B-8A | R2116 | B-2H |
| Q219 | A-8E | R18 | B-8D | R233 | B-1F | R362 | B-2E | R1039 | B-7A | R2117 | A-4F |
| Q222 | A-7D | R19 | B-7D | R234 | B-1F | R363 | B-2E | R1040 | B-7A | R2118 | A-4F |
| Q223 | A-7D | R20 | A-6D | R235 | B-2F | R364 | B-4E | R1041 | B-7A | R2119 | B-3G |
| Q225 | A-9E | R21 | A-6C | R236 | B-2E | R365 | B-3E | R1042 | B-8B | R2120 | B-2H |
| Q226 | A-9E | R22 | B-6C | R239 | B-2E | R366 | A-2E | R1043 | B-8A | R2121 | B-2G |
| Q227 | A-2D | R23 | A-6C | R240 | B-2E | R371 | B-3E | R1044 | B-8B | R2122 | B-2G |
| Q228 | A-3D | R24 | B-6D | R241 | A-2C | R372 | A-4F | R1045 | B-8A | R2141 | A-4G |
| Q229 | A-9E | R25 | B-6C | R242 | A-2C | R373 | B-3F | R1046 | B-7B | R2142 | A-5G |
| Q230 | A-9E | R26 | B-6C | R243 | A-2C | R374 | A-4F | R1047 | B-7B | R2143 | A-4G |
| Q601 | A-6D | R27 | B-6C | R244 | A-2C | R375 | A-4F | R1048 | B-7B | R2144 | A-4G |
| Q602 | A-6D | R28 | B-6C | R245 | A-2C | R376 | B-4F | R1049 | B-8B | R2145 | A-5G |
| Q603 | A-6D | R29 | B-6C | R246 | A-2C | R377 | B-4F | R1050 | B-7A | R2146 | A-4G |
| Q604 | A-6D | R30 | B-5B | R247 | B-2C | R378 | B-3E | R1051 | B-7A | R2147 | A-5G |

– SIDE B –

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| R2149 | A-4G | C28 | B-4A | C230 | A-1D | C605 | A-6D | C3025 | A-6F | | |
| R2150 | A-4G | C29 | A-4A | C231 | A-1D | C606 | A-4D | C3026 | B-6G | K1 | A-4A |
| R2151 | A-4G | C30 | B-4B | C232 | A-2D | C607 | A-5D | C3027 | B-8H | K2 | A-5B |
| R2152 | A-4G | C31 | B-4B | C233 | B-1E | C609 | A-1E | C3028 | A-7G | K202 | A-5F |
| R2153 | A-4G | C32 | B-4B | C234 | B-1E | C610 | A-1F | C3029 | B-7G | K203 | A-5E |
| R2154 | A-4G | C33 | B-4B | C235 | B-1E | C611 | A-2F | C3030 | A-6H | K204 | A-2E |
| R2201 | B-2G | C34 | B-4B | C236 | B-2D | C612 | A-5D | C3031 | B-7H | K1001 | A-8C |
| R2202 | B-2G | C35 | A-4B | C237 | A-4E | C613 | B-6E | C3032 | A-6G | K1002 | A-9C |
| R2203 | B-2G | C36 | B-4B | C238 | A-2C | C614 | B-6E | C3033 | B-7G | K1003 | A-10B |
| R2204 | B-2G | C37 | B-5C | C239 | A-2C | C615 | B-7E | C3034 | B-8F | K1004 | A-9C |
| R2205 | B-2G | C38 | A-5C | C240 | A-2C | C616 | A-6D | C3035 | A-8F | K1005 | A-10C |
| R2206 | B-2G | C39 | B-5B | C241 | B-2C | C617 | A-6E | C3036 | B-8G | K1006 | A-10C |
| R2501 | B-1H | C40 | B-5B | C242 | B-2C | C618 | A-5D | C3037 | A-8G | K1007 | A-9C |
| R2502 | B-1H | C41 | B-5B | C243 | B-2C | C619 | A-6D | C3038 | A-8F | K2001 | A-5F |
| R3001 | B-10G | C42 | B-5B | C244 | B-2D | C621 | A-4D | C3039 | B-7G | K2002 | A-5F |
| R3002 | B-10G | C43 | B-5B | C245 | B-2D | C1001 | A-9C | C3040 | A-7F | K4001 | A-1F |
| R3003 | A-9H | C44 | A-1C | C248 | B-5F | C1002 | A-10C | C3041 | B-8G | K4002 | A-1F |
| R3004 | A-9H | C45 | A-1C | C249 | A-5F | C1003 | B-10C | C3042 | B-8G | K4003 | A-10F |
| R3005 | B-10G | C46 | B-1C | C253 | B-4C | C1004 | A-10C | C3043 | B-8F | K4004 | A-10F |
| R3006 | A-10H | C47 | B-1C | C254 | B-5C | C1005 | B-10C | C3044 | B-8G | K4005 | A-10F |
| R3007 | A-9G | C48 | B-1C | C255 | A-5C | C1006 | A-9C | C3045 | B-8F | | |
| R3008 | A-9G | C49 | B-1C | C256 | B-5C | C1007 | A-9C | C3046 | B-8F | LC1001 | A-8A |
| R3009 | B-8G | C50 | B-1C | C257 | A-4C | C1008 | A-10B | C3047 | B-9F | | |
| R3010 | A-8G | C51 | A-1D | C258 | A-4C | C1009 | A-10B | C3048 | B-9F | BT2001 | A-2F |
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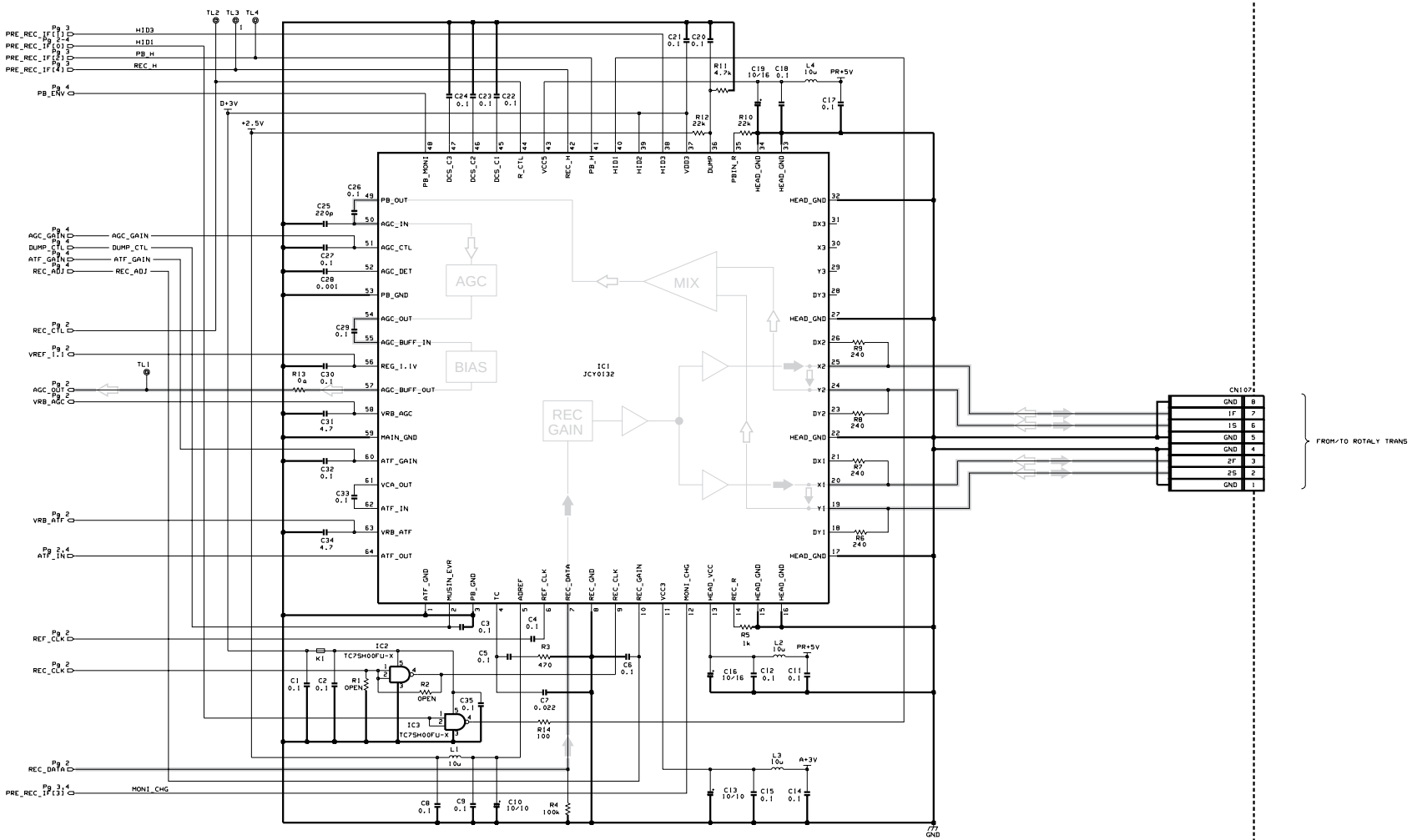
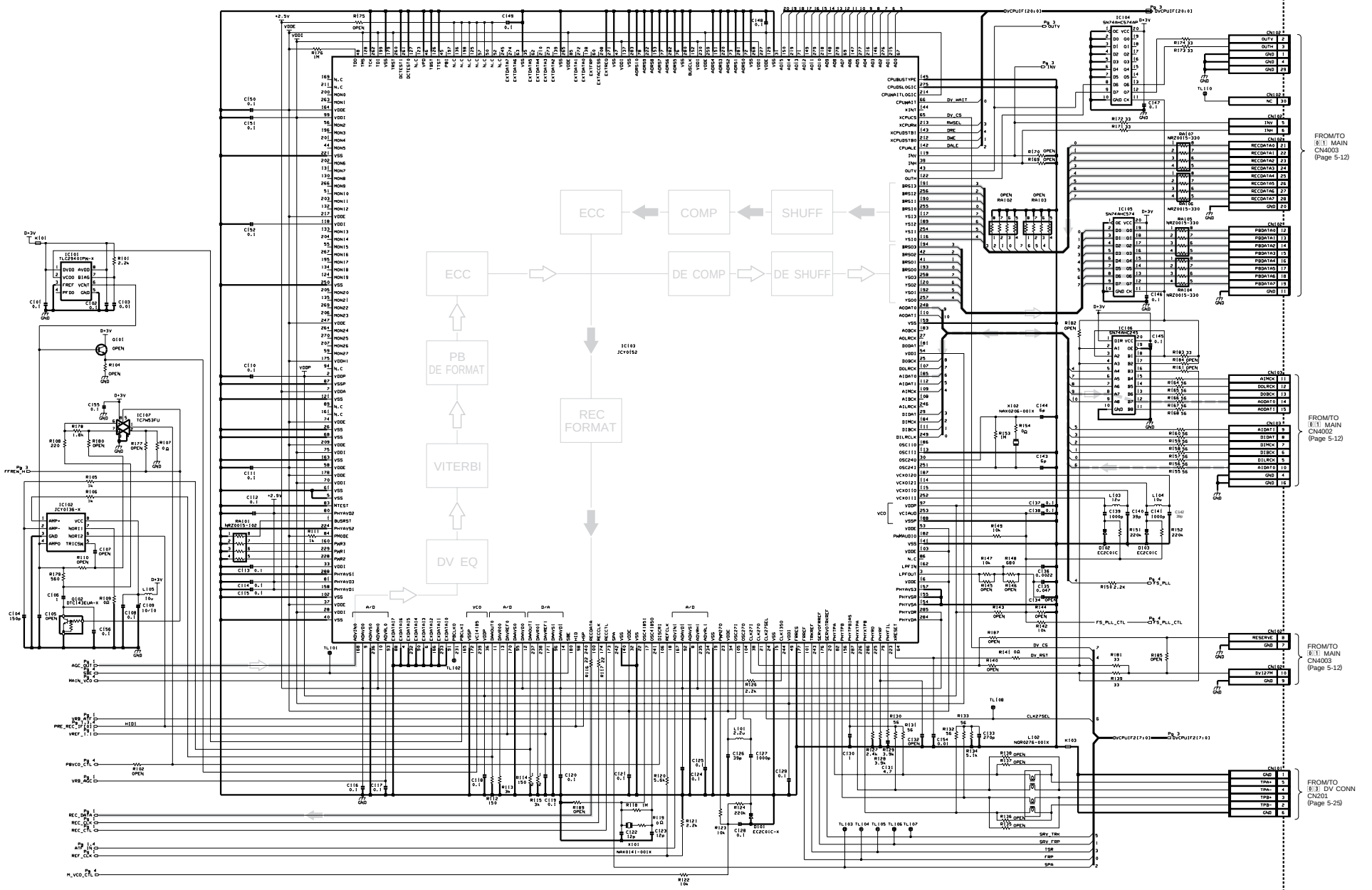
| R3012 | B-8G | C53 | B-1D | C260 | B-5C | C1011 | A-10B | C3050 | B-9F | F3001 | A-11H |
| R3013 | B-9G | C54 | B-1D | C261 | A-5C | C1012 | A-9B | C3051 | B-7G | | |
| R3014 | A-8G | C55 | B-1C | C262 | B-4B | C1013 | A-10B | C3052 | B-7F | J1 | A-12C |
| R3015 | B-9H | C56 | A-1C | C263 | B-3C | C1014 | A-9B | C3053 | B-7F | J2 | A-12E |
| R3016 | A-8H | C57 | B-1C | C264 | B-4C | C1015 | A-10B | C3054 | B-7F | J3 | A-12F |
| R3017 | A-8H | C58 | B-1B | C265 | A-4C | C1016 | A-11A | C3055 | B-7F | J4 | A-12H |
| R3018 | B-8H | C59 | B-1C | C267 | A-3D | C1017 | A-11A | C3056 | B-8F | | |
| R3019 | B-8H | C60 | A-1C | C268 | A-3D | C1018 | A-9A | C3057 | B-8F | L1 | A-6C |
| R3020 | A-8G | C61 | A-1B | C269 | A-3D | C1019 | A-9A | C3058 | B-8F | L2 | A-6C |
| R3021 | B-8G | C62 | B-1C | C270 | A-3D | C1020 | A-9A | C3059 | B-8F | L3 | A-5A |
| R3022 | B-7G | C63 | A-1B | C271 | A-3D | C1021 | A-9B | C3061 | A-10G | L4 | A-4A |
| R3023 | B-7G | C64 | B-1A | C272 | B-3D | C1022 | A-9A | C3062 | A-10G | L5 | A-3A |
| R3024 | B-7G | C65 | B-1A | C273 | A-3D | C1023 | A-8A | C3063 | B-9F | L6 | A-2A |
| R3025 | B-7G | C66 | B-1A | C275 | A-3D | C1024 | A-8A | C3064 | B-8F | L7 | A-2B |
| R3026 | A-8H | C67 | B-1A | C277 | B-10E | C1025 | A-8A | C4001 | B-10B | L8 | A-2B |
| R3027 | B-8H | C68 | B-1C | C278 | B-9E | C1026 | A-8B | C4002 | B-10B | L9 | A-3B |
| R3028 | B-7G | C69 | A-1A | C279 | A-9E | C1027 | B-8B | C4003 | B-10B | L10 | A-3B |
| R3029 | B-7H | C70 | A-1B | C280 | A-9E | C1028 | A-8B | C4004 | B-10B | L11 | A-3B |
| R3030 | B-7G | C71 | B-1B | C281 | A-8E | C1029 | B-8B | C4005 | B-10B | L12 | A-3B |
| R3031 | B-7H | C72 | A-1A | C282 | A-8E | C1030 | B-8B | C4006 | B-10A | L13 | A-4B |
| R3032 | B-7G | C73 | A-2A | C283 | A-8E | C1031 | A-8A | C4007 | B-11B | L14 | A-4B |
| R3033 | A-8F | C74 | B-2A | C284 | B-9E | C1032 | A-8B | C4008 | B-11A | L15 | A-4B |
| R3034 | B-8G | C75 | B-3A | C288 | A-8E | C1033 | A-8B | C4009 | B-11A | L16 | A-2B |
| R3035 | B-8G | C76 | A-3A | C291 | B-8E | C1034 | A-7A | C4010 | B-1F | L17 | A-2B |
| R3036 | A-8F | C77 | B-2A | C292 | B-8E | C1035 | A-7B | C4011 | B-1F | L18 | A-3B |
| R3037 | B-8F | C78 | B-2A | C293 | B-8E | C1036 | A-7B | C4012 | B-1F | L19 | A-1D |
| R3038 | B-8F | C79 | A-2A | C294 | B-8E | C1037 | B-7A | | | L201 | A-7E |
| R3039 | B-7F | C80 | B-4A | C295 | A-8E | C1038 | B-7A | VC1 | A-1A | L202 | A-3C |
| R3040 | B-7F | C81 | B-4B | C296 | B-8E | C1039 | B-7A | VC2 | A-1A | L203 | A-3D |
| R3041 | A-7G | C82 | A-4A | C297 | B-7E | C1040 | B-7A | VC601 | A-1F | L205 | A-5C |
| R3042 | B-8G | C83 | B-3A | C298 | A-8E | C1041 | B-7A | VC602 | A-1F | L206 | A-5C |
| R3043 | B-7G | C84 | B-3B | C299 | B-8E | C1042 | A-9C | | | L207 | A-1E |
| R3044 | B-8G | C85 | B-3B | C300 | B-7E | C1051 | B-7B | X1 | A-1B | L208 | A-2E |
| R3045 | B-8G | C86 | B-3B | C301 | A-9D | C1052 | B-7C | X2 | A-1B | L209 | A-10E |
| R3046 | B-8F | C87 | B-3A | C302 | B-8D | C1053 | B-8C | X201 | A-5E | L210 | A-8E |
| R3047 | B-8F | C88 | B-2B | C303 | B-9D | C1054 | A-8C | X2001 | A-3F | L211 | A-8E |
| R3048 | B-8F | C89 | B-2B | C304 | B-2C | C1055 | B-9C | X2003 | A-1G | L212 | A-7E |
| R3049 | B-8G | C90 | A-2B | C305 | A-7E | C1056 | A-10A | | | L213 | A-7E |
| R3050 | B-7F | C91 | B-2B | C306 | A-7D | C1057 | A-10A | FL1 | A-7D | L214 | A-7D |
| R3051 | A-7G | C92 | B-2B | C307 | B-7D | C1058 | A-7B | | | L215 | A-7D |
| R3052 | B-7F | C93 | A-2B | C308 | A-7D | C1059 | A-8B | TH3001 | A-10H | L216 | A-6E |
| R3053 | B-7F | C94 | A-4B | C312 | B-2D | C1060 | A-9C | TH3002 | A-10G | L217 | A-4D |
| R3054 | B-7F | C95 | A-4B | C313 | A-2D | C1061 | A-11H | TH3003 | A-9H | L218 | A-3E |
| R3056 | A-9G | C96 | A-4B | C314 | A-7D | C2001 | B-4G | TH3004 | A-8G | L219 | A-5E |
| R3058 | A-8H | C97 | A-3B | C315 | B-7D | C2002 | B-4G | | | L220 | A-2C |
| R3059 | A-8G | C98 | B-3B | C316 | B-7D | C2003 | B-1F | TP1 | A-8C | L221 | A-2C |
| R3069 | A-8G | C99 | B-3B | C317 | B-7D | C2004 | B-3G | TP2 | A-8D | L222 | A-2D |
| R3070 | A-8H | C100 | B-3B | C319 | A-6E | C2005 | B-1H | TP3 | A-5C | L223 | A-3D |
| R3071 | A-8G | C101 | A-3B | C320 | B-6D | C2006 | B-1G | TP4 | A-4A | L224 | A-2E |
| R3072 | B-7G | C102 | B-3B | C321 | B-6E | C2007 | B-1H | TP5 | A-4B | L601 | A-5F |
| R3073 | B-8G | C103 | B-3B | C322 | A-5D | C2031 | A-1G | TP6 | A-2B | L602 | A-5D |
| R3074 | A-8H | C104 | A-2B | C323 | B-5D | C2032 | B-1G | TP7 | A-3B | L3001 | A-7G |
| R3075 | B-8F | C105 | A-5D | C324 | B-4D | C2033 | B-1F | TP8 | A-3B | L3002 | A-7G |
| R3076 | A-7F | C106 | A-6A | C325 | B-2E | C2060 | B-3G | TP10 | A-1A | L3003 | A-7H |
| R4001 | B-11D | C107 | A-4A | C326 | A-1E | C2064 | B-3G | TP201 | A-2A | L3004 | A-7H |
| R4002 | B-11F | C108 | A-4A | C327 | B-2E | C2065 | A-2F | TP203 | A-2A | L3005 | A-7G |
| R4003 | B-11F | C114 | B-6A | C328 | B-2E | C2081 | B-4H | TP204 | A-4C | L3006 | A-6F |
| R4004 | B-11F | C115 | B-6A | C329 | A-2E | C2082 | B-4H | TP205 | A-4C | L3007 | A-9F |
| R4011 | B-6G | C117 | B-6A | C330 | B-2E | C2091 | A-2F | TP206 | A-3D | L3008 | A-7F |
| R4012 | B-6G | C118 | B-6B | C331 | B-2E | C2092 | A-1G | TP207 | A-8E | L3009 | A-9F |
| R4013 | B-6G | C119 | B-6B | C332 | B-2D | C2101 | B-1G | TP208 | A-7D | L4001 | B-11B |
| R4014 | B-6G | C120 | A-6B | C333 | B-3E | C2102 | B-2F | TP209 | A-10E | L4002 | B-10B |
| | | C131 | A-9E | C334 | A-3E | C2103 | A-4F | TP210 | A-3E | L4003 | A-10A |
| VR1001 | A-10A | C132 | A-9E | C335 | A-3E | C2131 | B-5G | TP211 | A-1D | L4004 | B-10B |
| VR1002 | A-10A | C133 | A-9E | C336 | A-3E | C2132 | A-5G | TP212 | A-1D | | |
| VR1003 | A-8A | C134 | A-9F | C337 | B-3E | C2133 | B-5F | TP2001 | A-5H | MA1 | -12H |
| VR1004 | A-8A | C135 | A-6B | C338 | B-1D | C2134 | B-5F | TP2002 | A-5H | MA2 | -1H |
| | | C136 | B-2E | C339 | B-1D | C2135 | A-5F | TP2003 | A-4G | MA3 | -1A |
| C1 | B-6C | C137 | A-6B | C340 | A-1D | C2136 | B-5F | TP2004 | A-3H | MA4 | -12A |
| C2 | B-6C | C138 | B-2E | C341 | B-1D | C2137 | B-5F | TP2005 | A-4H | | |
| C3 | A-6C | C152 | B-5B | C342 | B-1D | C2138 | A-5F | TP2006 | A-4F | TL2001 | A-1G |
| C4 | A-9D | C156 | B-3A | C343 | A-1D | C2139 | B-5F | TP2007 | A-4F | TL2002 | A-1G |
| C5 | B-6C | C170 | B-2E | C344 | B-3E | C2501 | B-1H | TP2008 | A-3H | TL3001 | A-9H |
| C6 | B-6C | C171 | B-2E | C345 | B-3E | C3001 | A-10H | TP2009 | A-1H | TL3002 | A-7H |
| C7 | A-6C | C203 | B-7E | C346 | B-2E | C3002 | A-9H | TP2010 | A-1H | TL3003 | B-7H |
| C8 | A-8D | C204 | B-7E | C347 | B-4E | C3003 | A-9G | TP2011 | A-2G | TL3004 | A-10G |
| C9 | A-8D | C205 | A-7E | C348 | B-4E | C3004 | A-9G | TP2012 | A-1H | TL3005 | A-6F |
| C10 | A-8C | C206 | B-7E | C349 | B-5E | C3005 | A-7H | TP2013 | A-3H | TL3006 | A-6H |
| C11 | B-7D | C207 | B-3B | C350 | A-5E | C3006 | A-6H | TP2014 | A-1H | TL3007 | A-9F |
| C12 | B-6D | C208 | B-3C | C351 | A-5E | C3007 | B-6H | TP2015 | A-1H | TL3008 | A-7F |
| C13 | B-6C | C209 | A-3C | C352 | A-5E | C3010 | B-10G | TP2016 | A-5G | TL3009 | B-6F |
| C14 | A-5A | C210 | A-3C | C353 | A-5E | C3011 | A-9F | TP2017 | A-5G | TL3010 | B-6H |
| C15 | B-4A | C211 | B-3D | C354 | B-8E | C3012 | A-10F | TP2018 | A-5G | TL3011 | B-9F |
| C16 | B-6A | C212 | A-3D | C355 | A-9E | C3013 | B-10G | TP2019 | A-5G | TL3012 | B-8F |
| C17 | B-5A | C213 | B-3D | C356 | A-8E | C3014 | B-9G | TP2020 | A-2H | TL4001 | A-11F |
| C18 | B-6A | C214 | A-2C | C357 | A-8D | C3015 | A-8G | TP2025 | A-2G | | |
| C19 | A-6A | C215 | A-2C | C358 | B-9E | C3016 | B-8G | | | | |
| C20 | B-6B | C216 | A-3C | C359 | B-8D | C3017 | A-8H | CN1001 | A-10B | | |
| C21 | B-6B | C217 | B-3C | C369 | A-1D | C3018 | A-8H | CN3001 | A-10G | | |
| C22 | A-6B | C218 | B-3C | C501 | A-3F | C3019 | B-8G | CN4001 | A-1E | | |
| C23 | B-5A | C219 | B-3C | C502 | A-3F | C3020 | A-8H | CN4002 | A-6G | | |
| C24 | A-5A | C220 | A-2C | C503 | A-3F | C3021 | B-8H | CN4003 | A-6F | | |
| C25 | A-5A | C221 | A-2C | C504 | A-3F | C3022 | B-8G | CN4004 | A-10E | | |
| C26 | A-4A | C222 | A-2C | C603 | A-6D | C3023 | A-7G | CN4005 | A-10F | | |

## 5.9 DV/CPU SCHEMATIC DIAGRAM 1/4

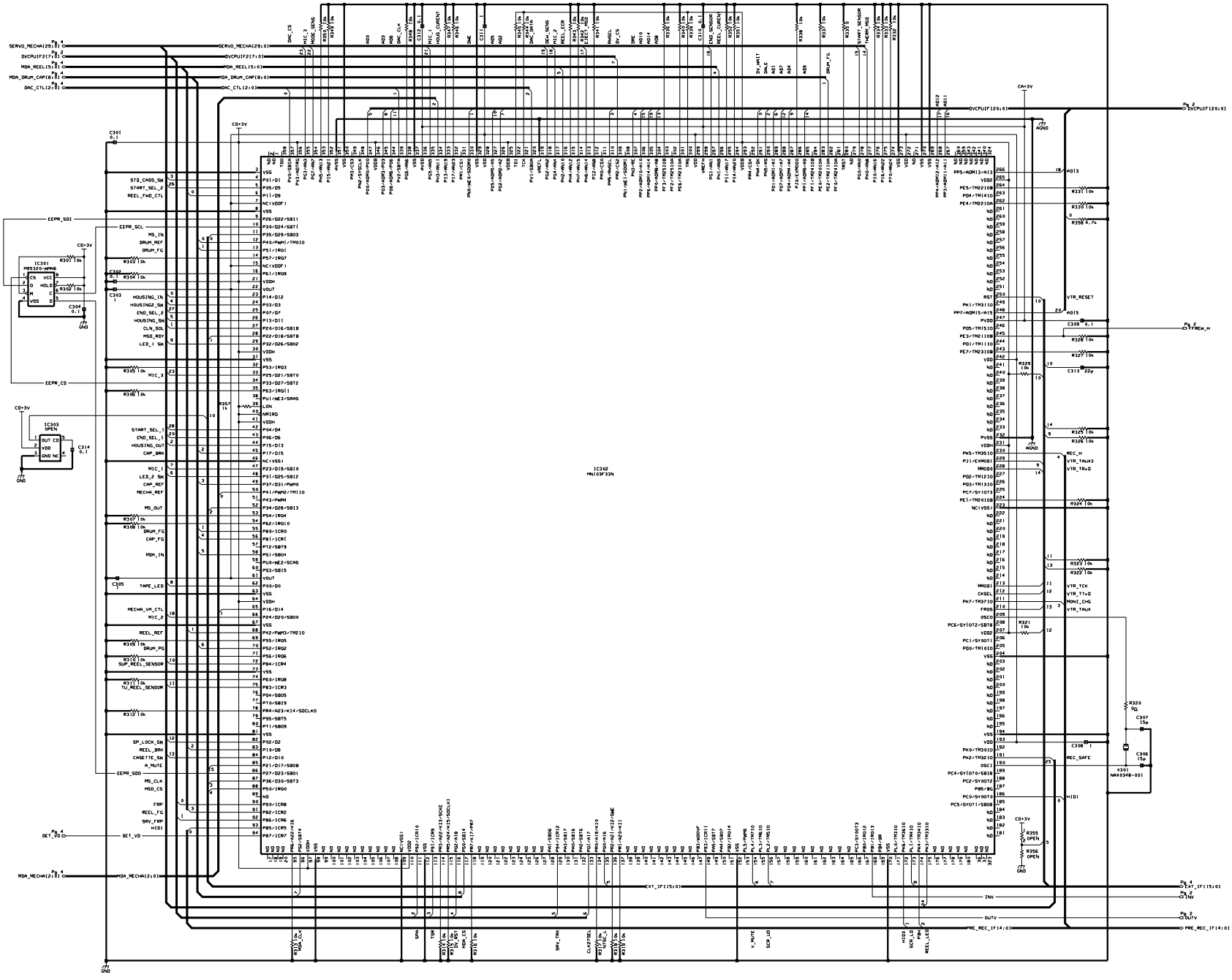
11 DV/CPU



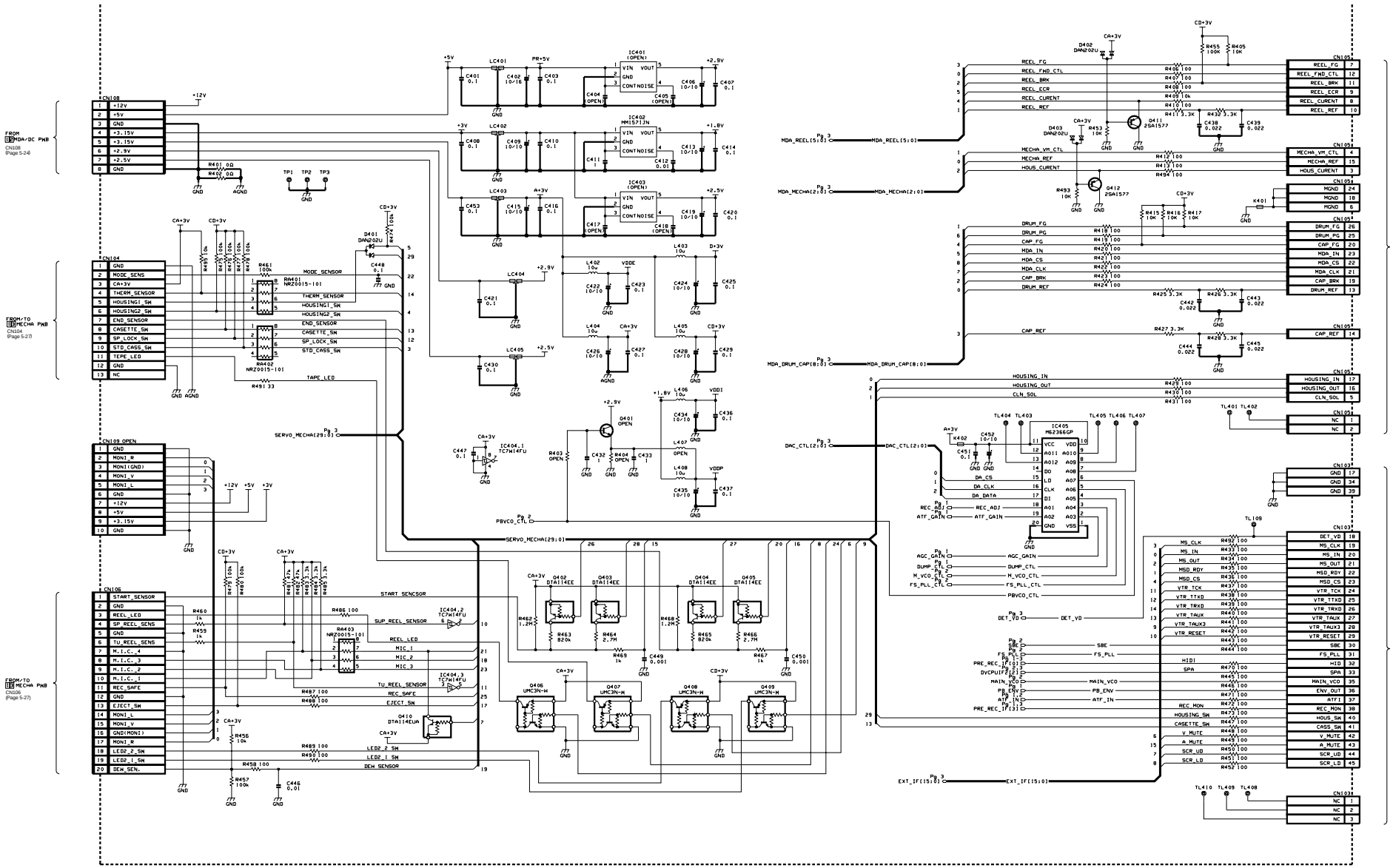
## DV/CPU SCHEMATIC DIAGRAM 2/4



# DV/CPU SCHEMATIC DIAGRAM 3/4

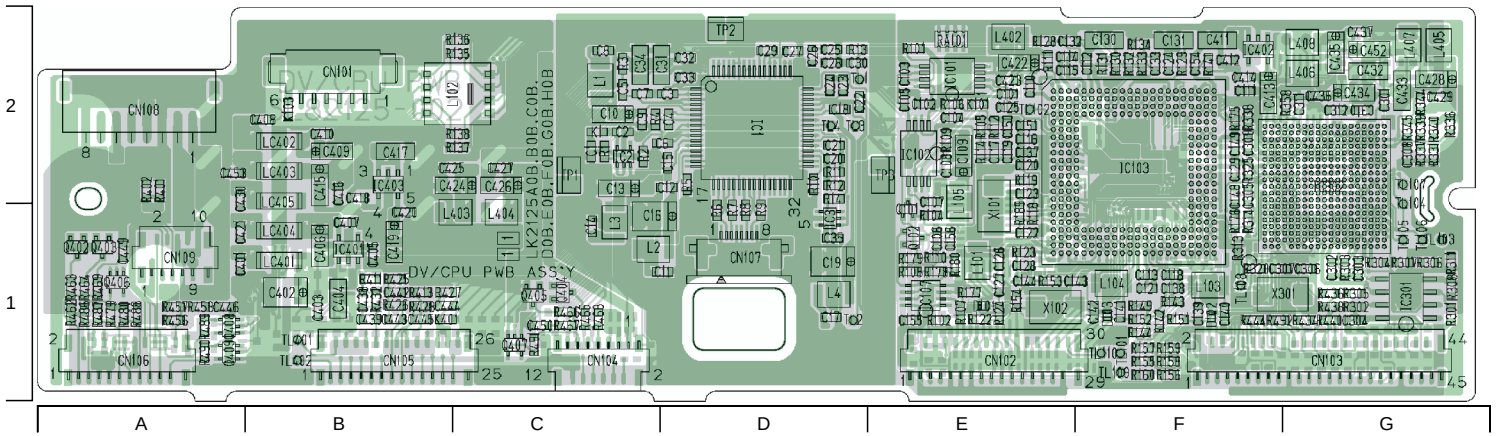


## DV/CPU SCHEMATIC DIAGRAM 4/4

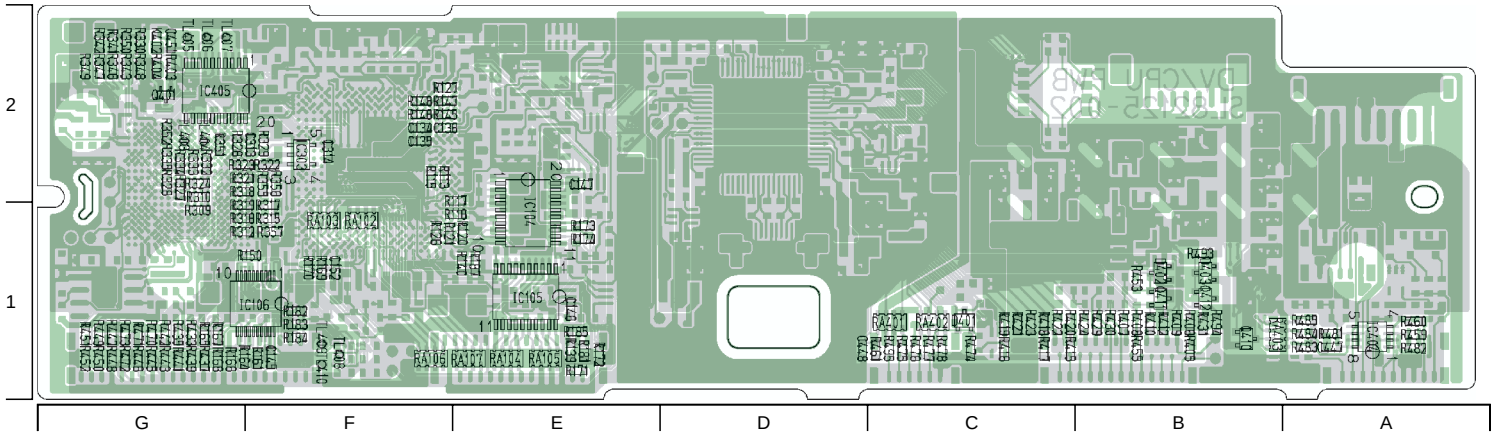


## 5.10 DV/CPU CIRCUIT BOARD

– SIDE A –




– SIDE B –



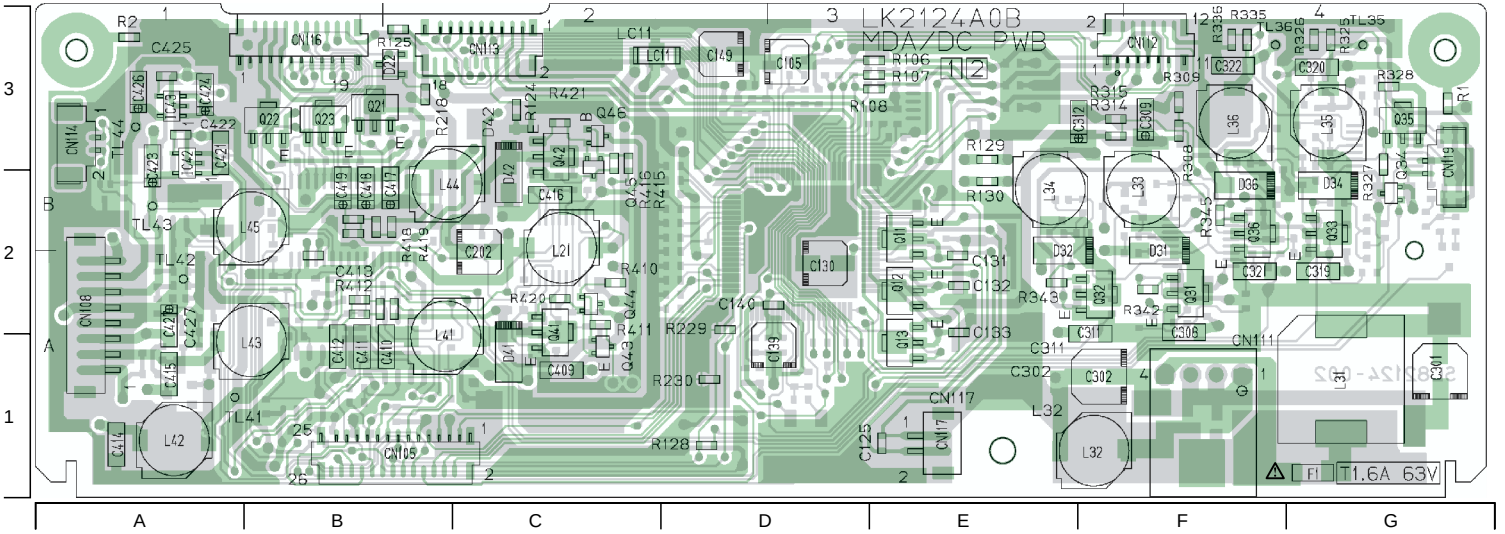

● ADDRESS TABLE OF BOARD PARTS
Each address may have an address error by one interval.

Side A-1C (Y axis / X axis)

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| IC1 | A-2D | R136 | A-2C | R339 | A-2G | R473 | B-1G | C119 | A-2E | C439 | A-1B |
| IC2 | A-2C | R137 | A-2C | R340 | A-2G | R474 | B-1C | C120 | A-2E | C442 | A-1B |
| IC3 | A-1D | R138 | A-2C | R341 | B-2G | R475 | B-1C | C121 | A-1F | C443 | A-1B |
| IC101 | A-2E | R139 | B-1E | R342 | B-2G | R476 | B-1C | C122 | A-1E | C444 | A-1B |
| IC102 | A-2E | R140 | B-1E | R343 | B-2G | R477 | B-1C | C123 | A-2E | C445 | A-1B |
| IC103 | A-2F | R141 | A-2F | R344 | A-2G | R478 | B-1C | C124 | A-2F | C446 | A-1A |
| IC104 | B-1E | R142 | A-1F | R345 | A-2G | R479 | A-1A | C125 | A-2E | C447 | B-1A |
| IC105 | B-1E | R143 | A-1F | R346 | B-2G | R480 | A-1A | C126 | A-1E | C448 | B-1C |
| IC106 | B-1F | R144 | A-1F | R347 | B-2G | R481 | B-1A | C127 | A-1E | C449 | A-1A |
| IC107 | A-1E | R145 | B-2F | R348 | B-2G | R482 | B-1A | C128 | A-1E | C450 | A-1C |
| IC301 | A-1G | R146 | B-2F | R349 | B-2G | R483 | B-1A | C129 | A-2F | C451 | B-2G |
| IC302 | A-2G | R147 | B-2F | R350 | B-2G | R484 | B-1A | C130 | A-2F | C452 | A-2G |
| IC303 | B-2F | R148 | B-2F | R351 | B-2G | R485 | B-1A | C131 | A-2F | C453 | A-2A |
| IC401 | A-1B | R149 | A-1F | R352 | B-2G | R486 | A-1A | C132 | A-2F | | |
| IC402 | A-2F | R150 | B-1F | R355 | B-2F | R487 | A-1A | C133 | A-2F | X101 | A-1E |
| IC403 | A-2B | R151 | A-1F | R356 | B-2F | R488 | A-1A | C134 | B-2F | X102 | A-1E |
| IC404 | B-1A | R152 | A-1F | R357 | B-1F | R489 | A-1A | C135 | B-2F | X301 | A-1G |
| IC405 | B-2G | R153 | A-1E | R358 | A-2G | R490 | A-1A | C136 | B-2F | | |
| | | R154 | A-1E | R401 | A-2A | R491 | A-1C | C137 | A-2E | TP1 | A-2C |
| Q101 | A-1E | R155 | A-1F | R402 | A-2A | R492 | A-1G | C138 | A-1F | TP2 | A-2D |
| Q102 | A-1E | R156 | A-1F | R403 | B-2G | R493 | B-1B | C139 | A-1F | TP3 | A-2E |
| Q401 | B-2G | R157 | A-1F | R404 | B-2G | R494 | B-1B | C140 | A-1F | | |
| Q402 | A-1A | R158 | A-1F | R405 | B-1B | R495 | B-1C | C141 | A-1F | CN101 | A-2B |
| Q403 | A-1A | R159 | A-1F | R406 | B-1B | | | C142 | A-1F | CN102 | A-1E |
| Q404 | A-1C | R160 | A-1F | R407 | B-1B | RA101 | A-2E | C143 | A-1F | CN103 | A-1G |
| Q405 | A-1C | R161 | B-1F | R408 | B-1B | RA102 | B-1F | C144 | A-1E | CN104 | A-1C |
| Q406 | A-1A | R164 | B-1F | R409 | B-1B | RA103 | B-1F | C145 | B-1F | CN105 | A-1B |
| Q407 | A-1C | R165 | B-1G | R410 | B-1B | RA104 | B-1E | C146 | B-1E | CN106 | A-1A |
| Q408 | A-1A | R166 | B-1G | R411 | A-1B | RA105 | B-1E | C147 | B-2E | CN107 | A-1D |
| Q409 | A-1A | R167 | B-1G | R412 | B-1B | RA106 | B-1F | C148 | A-2F | CN108 | A-2A |
| Q410 | B-1B | R168 | B-1G | R413 | A-1B | RA107 | B-1E | C149 | A-2F | CN109 | A-1A |
| Q411 | B-1B | R169 | B-1F | R415 | B-1B | RA401 | B-1C | C150 | A-2E | | |
| Q412 | B-1B | R170 | B-1F | R416 | B-1C | RA402 | B-1C | C151 | A-2E | K1 | A-2C |
| | | R171 | B-1E | R417 | B-1C | RA403 | B-1A | C152 | B-1F | K101 | A-2E |
| D101 | A-1E | R172 | B-1E | R418 | B-1C | | | C154 | A-2F | K103 | A-2B |
| D102 | A-1F | R173 | B-1E | R419 | B-1C | C1 | A-2C | C155 | A-1E | K401 | A-1B |
| D103 | A-1F | R174 | B-1E | R420 | B-1B | C2 | A-2C | C156 | A-1E | K402 | B-2G |
| D401 | B-1C | R175 | A-2F | R421 | B-1C | C3 | A-2D | C301 | A-2G | | |
| D402 | B-1B | R176 | A-1F | R422 | B-1C | C4 | A-2D | C302 | A-1G | LC401 | A-1B |
| D403 | B-1B | R177 | A-1E | R423 | B-1C | C5 | A-2C | C303 | A-1G | LC402 | A-2B |
| | | R178 | A-1E | R424 | B-1B | C6 | A-2D | C304 | A-1G | LC403 | A-2B |
| R1 | A-2C | R179 | A-1E | R425 | A-1B | C7 | A-2C | C305 | A-2F | LC404 | A-1B |
| R2 | A-2C | R180 | A-1E | R426 | A-1B | C8 | A-2C | C306 | A-1G | LC405 | A-2B |
| R3 | A-2C | R181 | B-1E | R427 | A-1B | C9 | A-2C | C307 | A-1G | | |
| R4 | A-2D | R182 | B-1F | R428 | A-1B | C10 | A-2C | C308 | A-2G | L1 | A-2C |
| R5 | A-2D | R183 | B-1F | R429 | B-1B | C11 | A-1D | C309 | A-2F | L2 | A-1C |
| R6 | A-1D | R184 | B-1F | R430 | B-1B | C12 | A-2D | C310 | A-2G | L3 | A-1C |
| R7 | A-1D | R185 | B-1E | R431 | B-1B | C13 | A-2C | C311 | A-2G | L4 | A-1D |
| R8 | A-1D | R187 | B-1E | R432 | A-1B | C14 | A-1C | C312 | A-2G | L101 | A-1E |
| R9 | A-1D | R189 | A-1E | R433 | B-1G | C15 | A-2D | C313 | B-2F | L102 | A-2C |
| R10 | A-2D | R301 | A-1G | R434 | A-1G | C16 | A-1D | C314 | B-2F | L103 | A-1F |
| R11 | A-2D | R302 | A-1G | R435 | B-1G | C17 | A-1D | C401 | A-1A | L104 | A-1F |
| R12 | A-2D | R303 | A-1G | R436 | A-1G | C18 | A-2D | C402 | A-1B | L105 | A-2E |
| R13 | A-2D | R304 | A-1G | R437 | B-1G | C19 | A-1D | C403 | A-1B | L402 | A-2E |
| R14 | A-2D | R305 | A-1G | R438 | A-1G | C20 | A-2D | C404 | A-1B | L403 | A-1C |
| R101 | A-2E | R306 | A-1G | R439 | B-1G | C21 | A-2D | C405 | A-1B | L404 | A-1C |
| R102 | A-1E | R307 | A-1G | R440 | A-1G | C22 | A-2E | C406 | A-1B | L405 | A-2G |
| R104 | A-1E | R308 | A-1G | R441 | B-1G | C23 | A-2D | C407 | A-1B | L406 | A-2G |
| R105 | A-2E | R309 | B-1G | R442 | B-1G | C24 | A-2D | C408 | A-2B | L407 | A-2G |
| R106 | A-2E | R310 | B-2G | R443 | B-1G | C25 | A-2D | C409 | A-2B | L408 | A-2G |
| R107 | A-1E | R311 | A-1G | R444 | A-1F | C26 | A-2D | C410 | A-2B | | |
| R108 | A-1E | R312 | B-1F | R445 | B-1G | C27 | A-2D | C411 | A-2F | TL1 | A-2E |
| R109 | A-2E | R313 | A-1F | R446 | B-1G | C28 | A-2D | C412 | A-2F | TL2 | A-1D |
| R110 | A-1E | R314 | A-1F | R447 | B-1G | C29 | A-2D | C413 | A-2F | TL3 | A-2D |
| R111 | A-2E | R315 | B-1F | R448 | B-1G | C30 | A-2D | C414 | A-2F | TL4 | A-2D |
| R112 | A-2E | R316 | B-1F | R449 | B-1G | C31 | A-2D | C415 | A-2B | TL101 | A-1F |
| R113 | B-2F | R317 | B-1F | R450 | B-1G | C32 | A-2D | C416 | A-2B | TL102 | A-2E |
| R114 | A-2E | R318 | B-2F | R451 | B-1G | C33 | A-2D | C417 | A-2B | TL103 | A-1G |
| R115 | B-2F | R319 | B-1F | R452 | B-1G | C34 | A-2C | C418 | A-2B | TL104 | A-2G |
| R116 | B-1E | R320 | A-1F | R453 | B-1B | C35 | A-1D | C419 | A-1B | TL105 | A-1G |
| R117 | B-2E | R321 | B-2F | R455 | B-1B | C101 | A-2E | C420 | A-1B | TL106 | A-1G |
| R118 | A-1E | R322 | B-2F | R456 | A-1A | C102 | A-2E | C421 | A-1A | TL107 | A-2G |
| R119 | A-2E | R323 | B-2F | R457 | A-1A | C103 | A-2E | C422 | A-2E | TL108 | A-1F |
| R120 | B-1E | R324 | B-2G | R458 | A-1A | C104 | A-2E | C423 | A-2E | TL109 | A-1F |
| R121 | B-1E | R325 | A-2F | R459 | B-1A | C105 | A-2E | C424 | A-2C | TL110 | A-1F |
| R122 | A-1E | R326 | B-2G | R460 | B-1A | C106 | A-1E | C425 | A-2C | TL401 | A-1B |
| R123 | A-1E | R327 | B-2G | R461 | B-1C | C107 | A-2E | C426 | A-2C | TL402 | A-1B |
| R124 | A-1E | R328 | B-2G | R462 | A-1A | C108 | A-2E | C427 | A-2C | TL403 | B-2G |
| R126 | B-1F | R329 | B-2F | R463 | A-1A | C109 | A-2E | C428 | A-2G | TL404 | B-2G |
| R127 | B-2F | R330 | B-2G | R464 | A-1A | C110 | A-2E | C429 | A-2G | TL405 | B-2G |
| R128 | A-2E | R331 | A-2G | R465 | A-1C | C111 | A-2F | C430 | A-2A | TL406 | B-2G |
| R129 | A-2F | R332 | B-2G | R466 | A-1C | C112 | A-2F | C432 | A-2G | TL407 | B-2G |
| R130 | A-2F | R333 | B-2G | R467 | A-1C | C113 | A-1F | C433 | A-2G | TL408 | B-1F |
| R131 | A-2F | R334 | B-2G | R468 | A-1C | C114 | A-2F | C434 | A-2G | TL409 | B-1F |
| R132 | A-2F | R335 | B-2G | R469 | A-1A | C115 | A-2F | C435 | A-2G | TL410 | B-1F |
| R133 | A-2F | R336 | A-2G | R470 | B-1G | C116 | A-2E | C436 | A-2G | | |
| R134 | A-2F | R337 | A-2G | R471 | B-1G | C117 | A-2E | C437 | A-2G | | |
| R135 | A-2C | R338 | A-2F | R472 | B-1G | C118 | A-1F | C438 | A-1B | | |

## 5.11 MDA/DC CIRCUIT BOARD

– SIDE A –

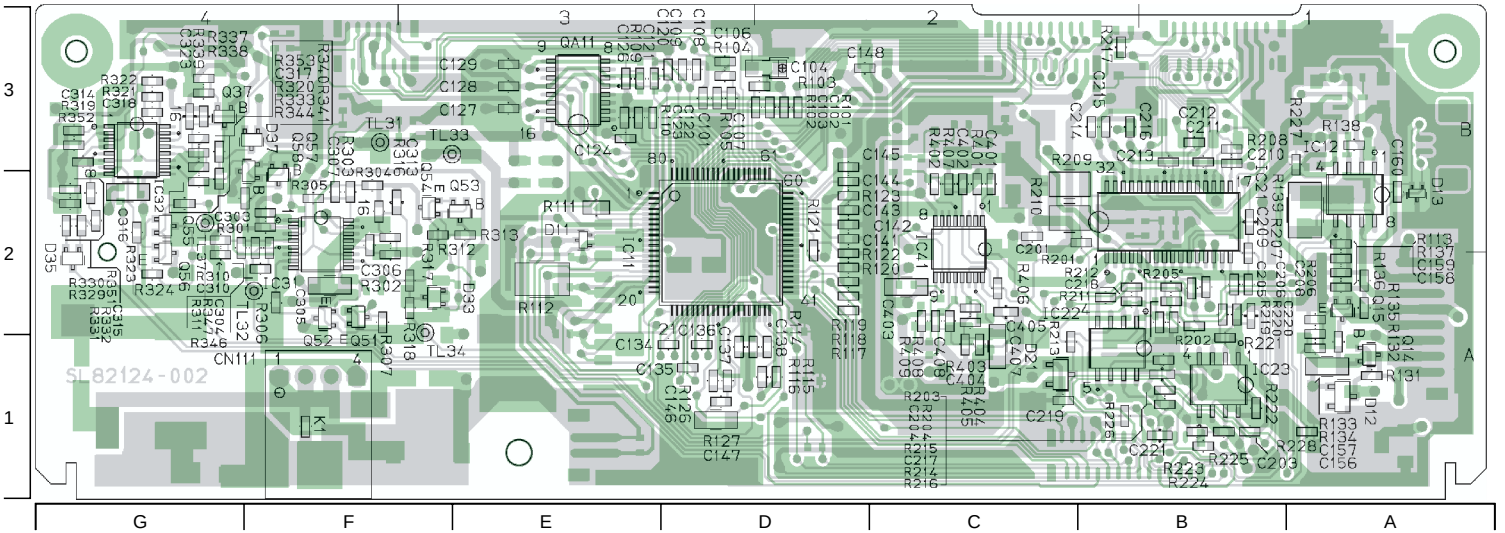



⚠ 警 告

⚠ 印の部品は安全上重要な部品です。
交換するときは、安全上および性能維持のため
必ず指定の部品をご使用ください。

**IMPORTANT SAFETY NOTICE:**
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

– SIDE B –

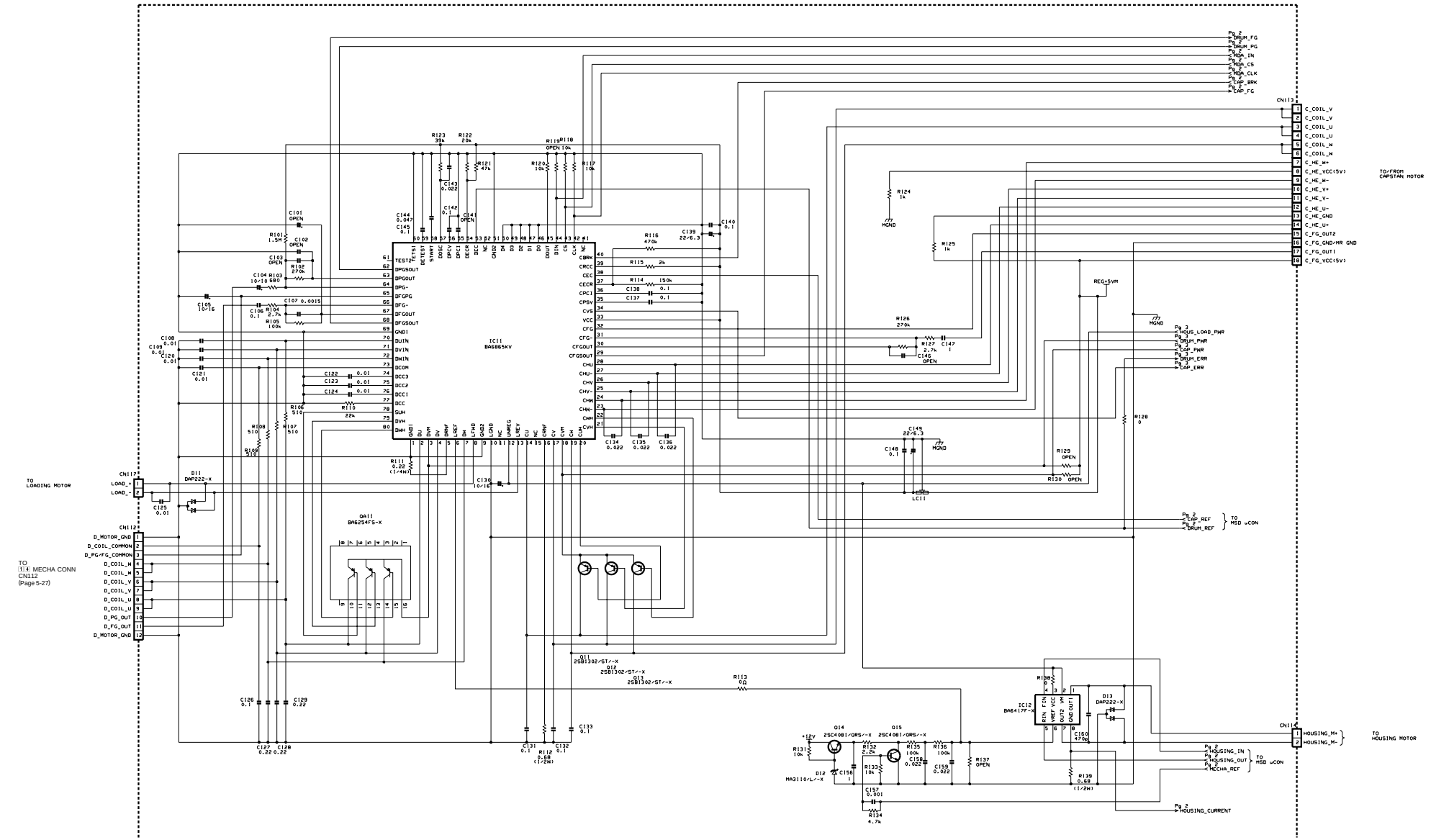



● ADDRESS TABLE OF BOARD PARTS
Each address may have an address error by one interval.

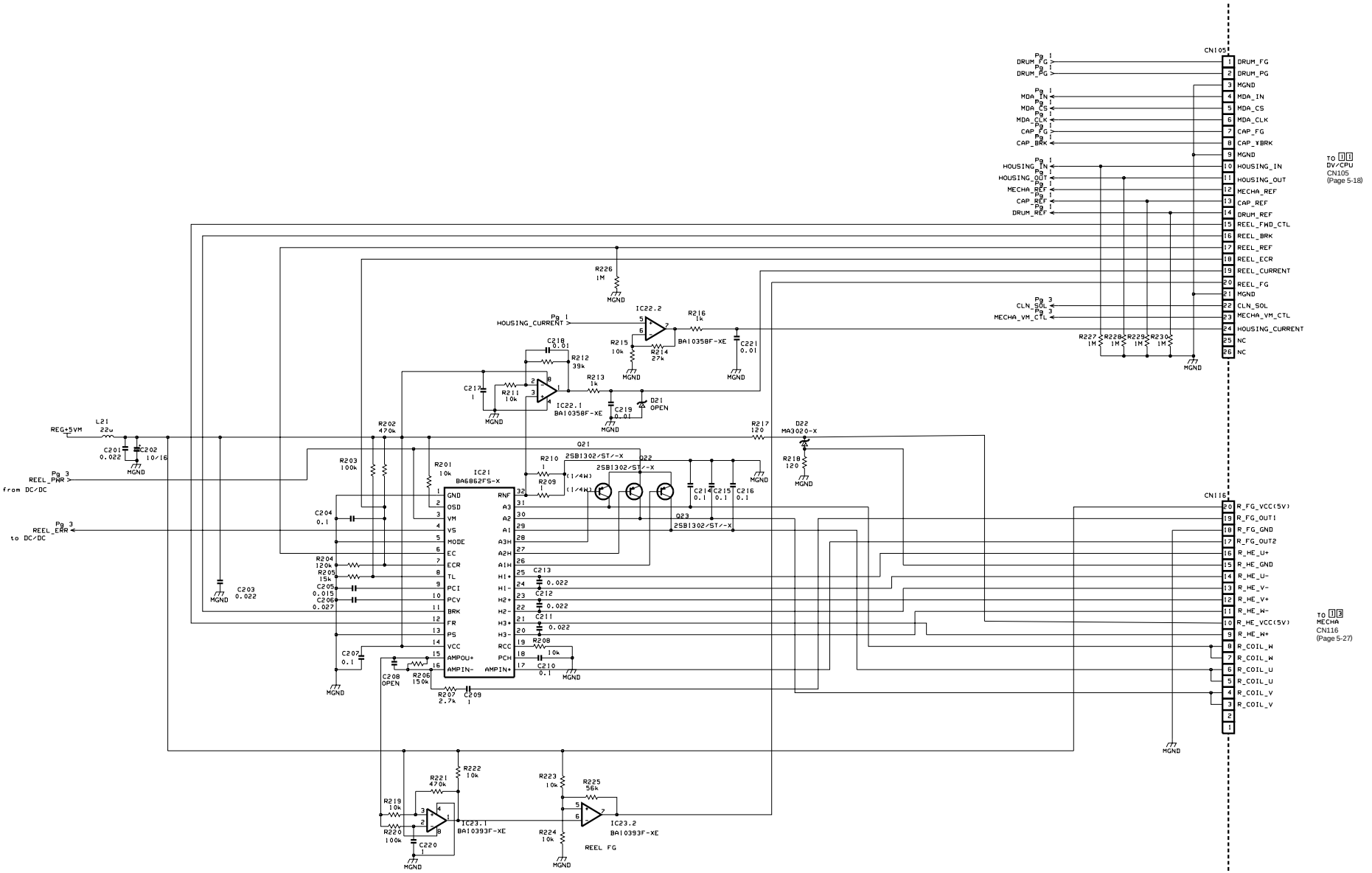
Side A-1C (Y axis / X axis)

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| IC11 | B-2D | R120 | B-2D | R328 | A-3G | C142 | B-2D | C422 | A-3A |
| IC12 | B-2A | R121 | B-2D | R329 | B-2G | C143 | B-2D | C423 | A-2A |
| IC21 | B-2B | R122 | B-2D | R330 | B-2G | C144 | B-2D | C424 | A-3A |
| IC22 | B-1B | R123 | B-2D | R331 | B-2G | C145 | B-2D | C425 | A-3A |
| IC23 | B-1B | R124 | A-3C | R332 | B-2G | C146 | B-1D | C426 | A-3A |
| IC31 | B-2F | R125 | A-3B | R333 | B-2G | C147 | B-1D | C427 | A-2A |
| IC32 | B-3G | R126 | B-1D | R334 | B-2F | C148 | B-3C | | |
| IC41 | B-2C | R127 | B-1D | R335 | A-3F | C149 | A-3D | CN105 | A-1B |
| IC42 | A-2A | R128 | A-1D | R336 | A-3F | C156 | B-1A | CN108 | A-2A |
| IC43 | A-3A | R129 | A-3E | R337 | B-3G | C157 | B-1A | CN111 | A-1F |
| | | R130 | A-2E | R338 | B-3G | C158 | B-2A | CN112 | A-3F |
| Q11 | A-2E | R131 | B-1A | R339 | B-3G | C159 | B-2A | CN113 | A-3C |
| Q12 | A-2E | R132 | B-1A | R340 | B-3G | C160 | B-2A | CN114 | A-3A |
| Q13 | A-1E | R133 | B-2A | R341 | B-2G | C201 | B-2C | CN116 | A-3B |
| Q14 | B-1A | R134 | B-1A | R342 | A-2F | C202 | A-2C | CN117 | A-1E |
| Q15 | B-2A | R135 | B-2A | R343 | A-2E | C203 | B-1B | CN119 | A-2G |
| Q21 | A-3B | R136 | B-2A | R344 | B-2G | C204 | B-2B | | |
| Q22 | A-3B | R137 | B-2A | R345 | A-2F | C205 | B-2B | K1 | B-1F |
| Q23 | A-3B | R138 | B-3A | R346 | B-2F | C206 | B-2B | | |
| Q31 | A-2F | R139 | B-2A | R347 | B-2F | C207 | A-2B | LC11 | A-3C |
| Q32 | A-2F | R201 | B-2B | R348 | B-2F | C208 | B-2B | | |
| Q33 | A-2G | R202 | B-2B | R351 | B-2G | C209 | B-2B | F1 | A-1G |
| Q34 | A-2G | R203 | B-2B | R352 | B-3G | C210 | B-2B | | |
| Q35 | A-3G | R204 | B-2B | R353 | B-3G | C211 | B-3B | L21 | A-2C |
| Q36 | A-2F | R205 | B-2B | R401 | B-2C | C212 | B-3B | L31 | A-1G |
| Q37 | B-3G | R206 | B-2B | R402 | B-2C | C213 | B-3B | L32 | A-1F |
| Q41 | A-1C | R207 | B-2B | R403 | B-2C | C214 | B-3B | L33 | A-2F |
| Q42 | A-3C | R208 | B-3B | R404 | B-1C | C215 | B-3B | L34 | A-2E |
| Q43 | A-1C | R209 | B-2C | R405 | B-1C | C216 | B-3B | L35 | A-3G |
| Q44 | A-2C | R210 | B-2C | R406 | B-2C | C217 | B-1B | L36 | A-3F |
| Q45 | A-2C | R211 | B-2B | R407 | B-2C | C218 | B-2B | L41 | A-1B |
| Q46 | A-3C | R212 | B-2B | R408 | B-2C | C219 | B-1C | L42 | A-1A |
| Q51 | B-2F | R213 | B-1C | R409 | B-2C | C220 | B-2B | L43 | A-1B |
| Q52 | B-2F | R214 | B-1B | R410 | A-2C | C221 | B-1B | L44 | A-2B |
| Q53 | B-2E | R215 | B-1B | R411 | A-2C | C301 | A-1G | L45 | A-2B |
| Q54 | B-2F | R216 | B-1B | R412 | A-2B | C302 | A-1F | | |
| Q55 | B-2G | R217 | B-3B | R413 | A-2B | C303 | B-2F | QA11 | B-3E |
| Q56 | B-2G | R218 | A-3B | R414 | A-2B | C304 | B-2F | | |
| Q57 | B-2F | R219 | B-2B | R415 | A-2C | C305 | B-2F | TL31 | B-3F |
| Q58 | B-2F | R220 | B-2B | R416 | A-2C | C306 | B-2F | TL32 | B-2F |
| | | R221 | B-1B | R417 | A-2B | C307 | B-2F | TL33 | B-3E |
| D11 | B-2E | R222 | B-1B | R418 | A-2B | C308 | A-1F | TL34 | B-1F |
| D12 | B-1A | R223 | B-1B | R419 | A-2B | C309 | A-3F | TL35 | A-3G |
| D13 | B-2A | R224 | B-1B | R420 | A-2C | C310 | B-2G | TL36 | A-3F |
| D21 | B-1C | R225 | B-1B | R421 | A-3C | C311 | A-1F | TL37 | B-2G |
| D22 | A-3B | R226 | B-1B | | | C312 | A-3F | TL41 | A-1A |
| D31 | A-2F | R227 | B-2A | C101 | B-3D | C313 | B-2F | TL42 | A-2A |
| D32 | A-2E | R228 | B-1A | C102 | B-3D | C314 | B-3G | TL43 | A-2A |
| D33 | B-2F | R229 | A-1D | C103 | B-3D | C315 | B-2G | TL44 | A-3A |
| D34 | A-2G | R230 | A-1D | C104 | B-3D | C316 | B-2G | | |
| D35 | B-2G | R301 | B-2F | C105 | A-3D | C317 | B-3G | | |
| D36 | A-2F | R302 | B-2F | C106 | B-3D | C318 | B-3G | | |
| D37 | B-3F | R303 | B-2F | C107 | B-3D | C319 | A-2G | | |
| D41 | A-1C | R304 | B-2F | C108 | B-3D | C320 | A-3G | | |
| D42 | A-2C | R305 | B-2F | C109 | B-3D | C321 | A-2F | | |
| | | R306 | B-2F | C120 | B-3D | C322 | A-3F | | |
| R1 | A-3G | R307 | B-2F | C121 | B-3E | C323 | B-3G | | |
| R2 | A-3A | R308 | A-3F | C122 | B-3E | C401 | B-2C | | |
| R101 | B-3D | R309 | A-3F | C123 | B-3E | C402 | B-2C | | |
| R102 | B-3D | R310 | B-2G | C124 | B-3E | C403 | B-2C | | |
| R103 | B-3D | R311 | B-2G | C125 | A-1E | C404 | B-2C | | |
| R104 | B-3D | R312 | B-2F | C126 | B-3E | C405 | B-2C | | |
| R105 | B-3D | R313 | B-2E | C127 | B-3E | C407 | B-1C | | |
| R106 | A-3E | R314 | A-3F | C128 | B-3E | C408 | B-2C | | |
| R107 | A-3E | R315 | A-3F | C129 | B-3E | C409 | A-1C | | |
| R108 | A-3E | R316 | B-2F | C130 | A-2D | C410 | A-1B | | |
| R109 | B-3E | R317 | B-2F | C131 | A-2E | C411 | A-1B | | |
| R110 | B-3E | R318 | B-2F | C132 | A-2E | C412 | A-1B | | |
| R111 | B-2E | R319 | B-3G | C133 | A-1E | C413 | A-2B | | |
| R112 | B-2E | R320 | B-2G | C134 | B-1D | C414 | A-1A | | |
| R113 | B-2A | R321 | B-3G | C135 | B-1D | C415 | A-1A | | |
| R114 | B-1D | R322 | B-3G | C136 | B-1D | C416 | A-2C | | |
| R115 | B-1D | R323 | B-2G | C137 | B-1D | C417 | A-2B | | |
| R116 | B-1D | R324 | B-2G | C138 | B-1D | C418 | A-2B | | |
| R117 | B-2D | R325 | A-3G | C139 | A-1D | C419 | A-2B | | |
| R118 | B-2D | R326 | A-3G | C140 | A-2D | C420 | A-2B | | |
| R119 | B-2D | R327 | A-2G | C141 | B-2D | C421 | A-3A | | |

## 5.12 MDA/DC SCHEMATIC DIAGRAM 1/4



## MDA/DC SCHEMATIC DIAGRAM 2/4



# MDA/DC SCHEMATIC DIAGRAM 3/4

⚠ 警 告

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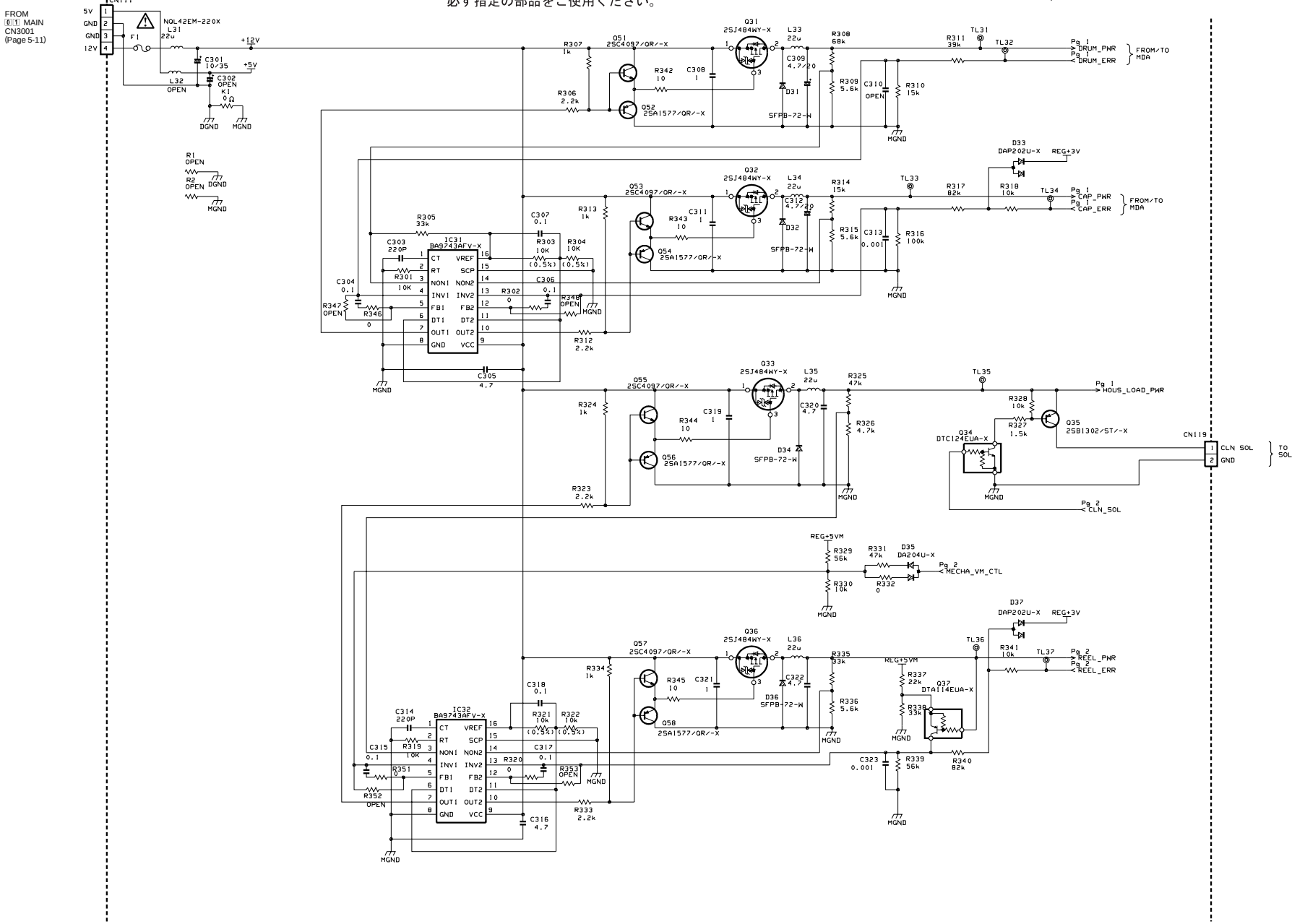
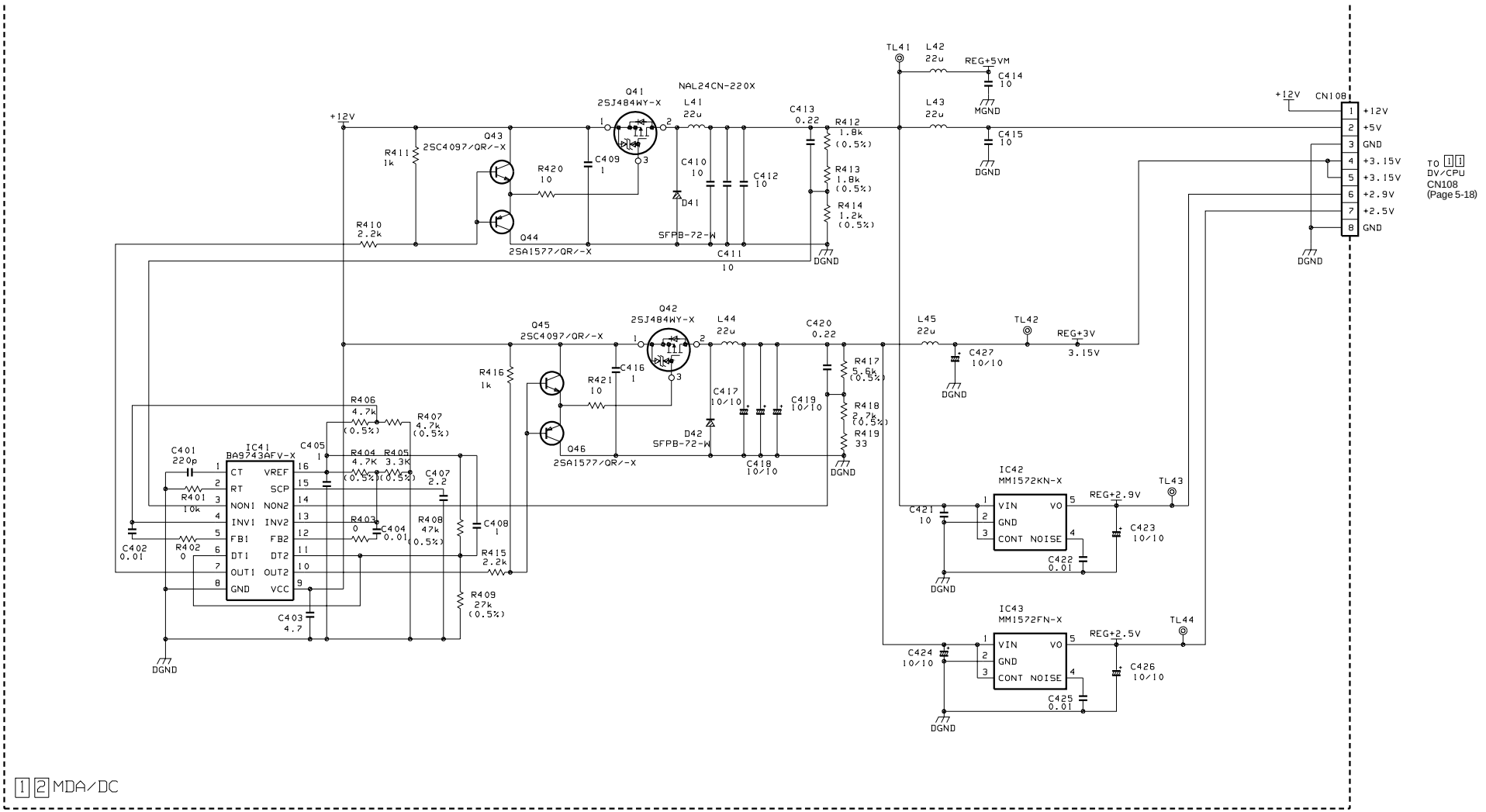
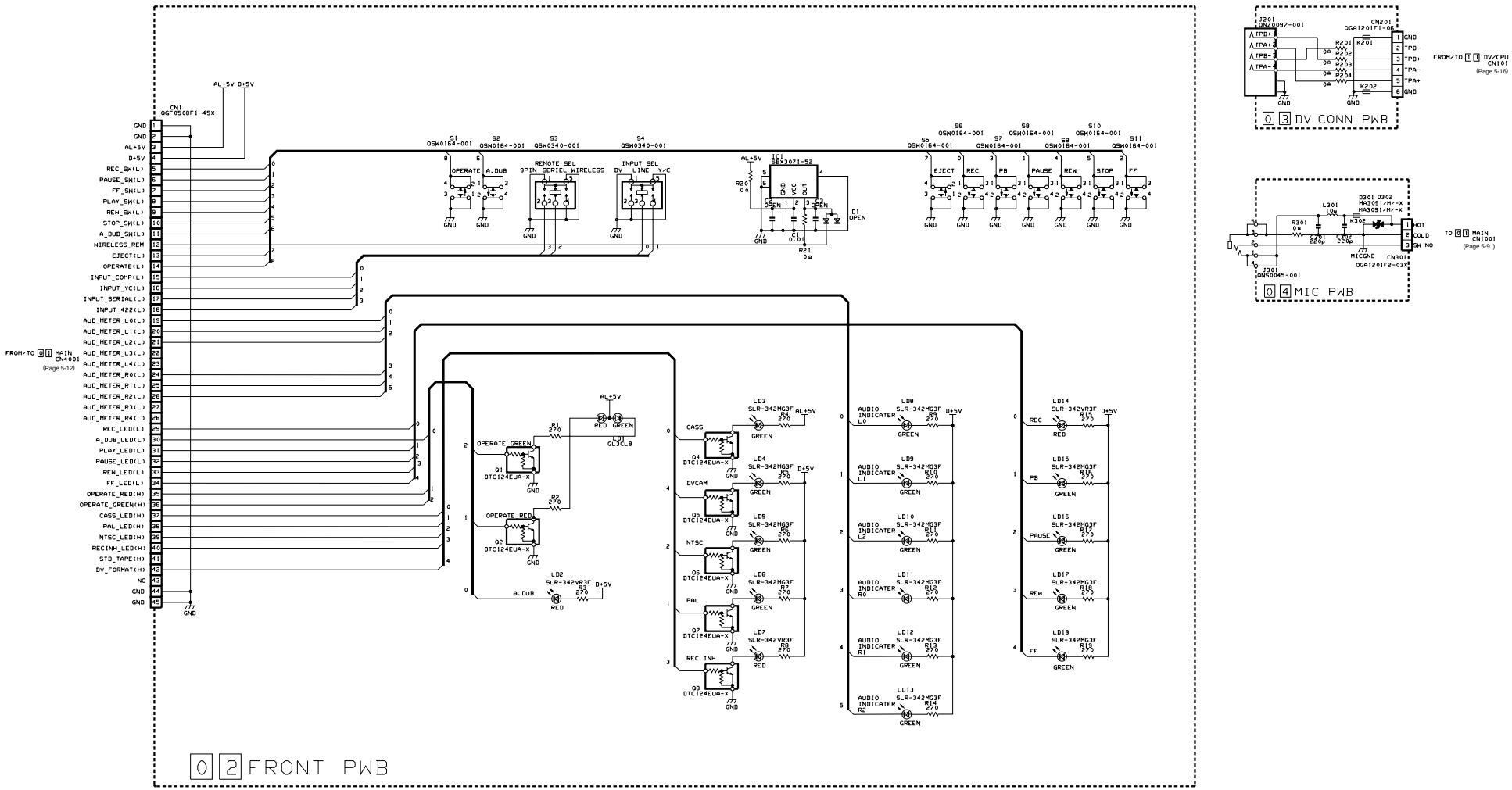


## MDA/DC SCHEMATIC DIAGRAM 4/4



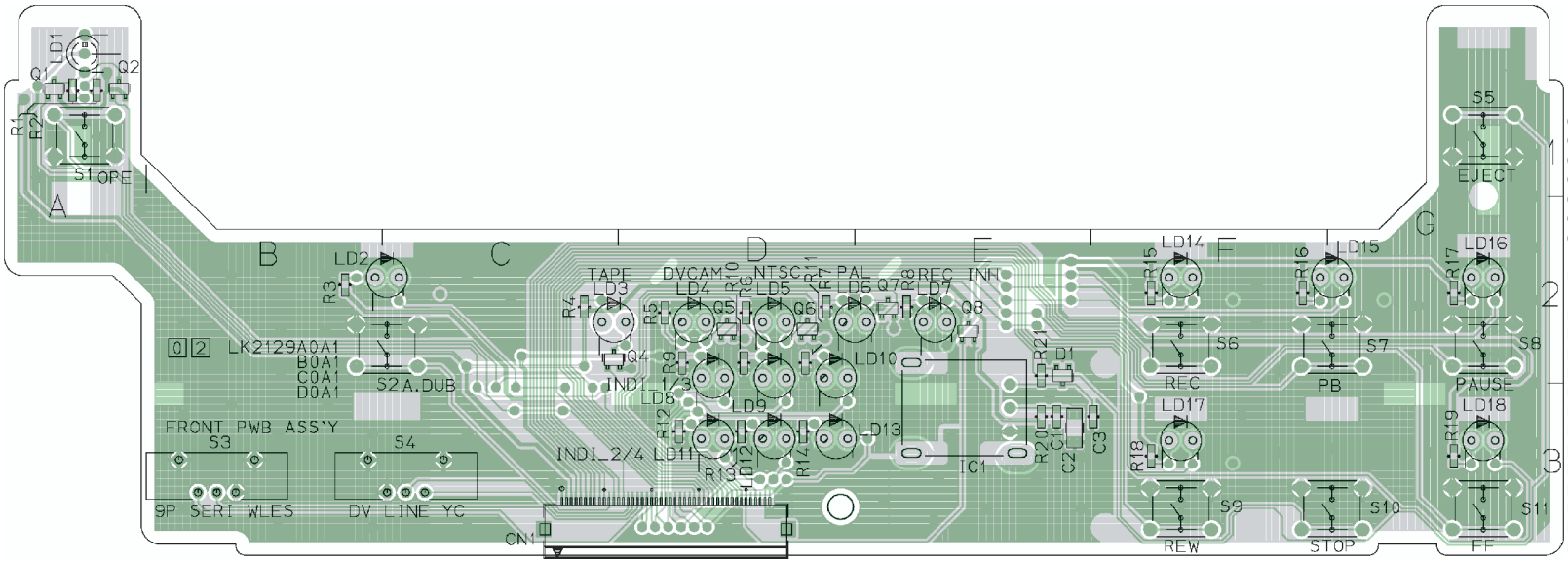
# 5.13 FDM (FRONT, DV CONN & MIC) SCHEMATIC DIAGRAMS



## 5.14 FDM (FRONT, DV CONN & MIC) CIRCUIT BOARDS

– FRONT CIRCUIT BOARD –

– SIDE A –



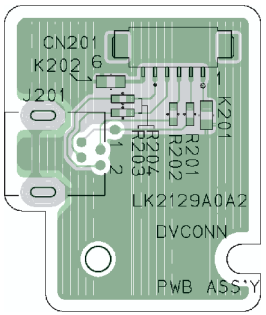

● ADDRESS TABLE OF BOARD PARTS
Each address may have an address error by one interval.

Side A-1C (Y axis, X axis)

| | | | | | |
|---|---|---|---|---|---|
| IC1 | A-3E | R14 | A-3D | LD13 | A-3D |
| | | R15 | A-2F | LD14 | A-2F |
| Q1 | A-1A | R16 | A-2F | LD15 | A-2F |
| Q2 | A-1A | R17 | A-2G | LD16 | A-2G |
| Q4 | A-2C | R18 | A-3F | LD17 | A-3F |
| Q5 | A-2D | R19 | A-3G | LD18 | A-3G |
| Q6 | A-2D | R20 | A-3E | | |
| Q7 | A-2E | R21 | A-3E | CN1 | A-3C |
| Q8 | A-2E | | | | |
| | | C1 | A-3E | S1 | A-1A |
| D1 | A-3E | C2 | A-3E | S2 | A-2B |
| | | C3 | A-3F | S3 | A-3B |
| R1 | A-1A | | | S4 | A-3B |
| R2 | A-1A | LD1 | A-1A | S5 | A-1G |
| R3 | A-2B | LD2 | A-2B | S6 | A-2F |
| R4 | A-2C | LD3 | A-2C | S7 | A-2F |
| R5 | A-2D | LD4 | A-2D | S8 | A-2G |
| R6 | A-2D | LD5 | A-2D | S9 | A-3F |
| R7 | A-2D | LD6 | A-2D | S10 | A-3F |
| R8 | A-2E | LD7 | A-2D | S11 | A-3G |
| R9 | A-2D | LD8 | A-3D | | |
| R10 | A-2D | LD9 | A-3D | | |
| R11 | A-2D | LD10 | A-3D | | |
| R12 | A-3D | LD11 | A-3D | | |
| R13 | A-3D | LD12 | A-3D | | |

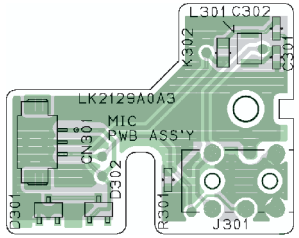
– DV CONN CIRCUIT BOARD –

– SIDE A –

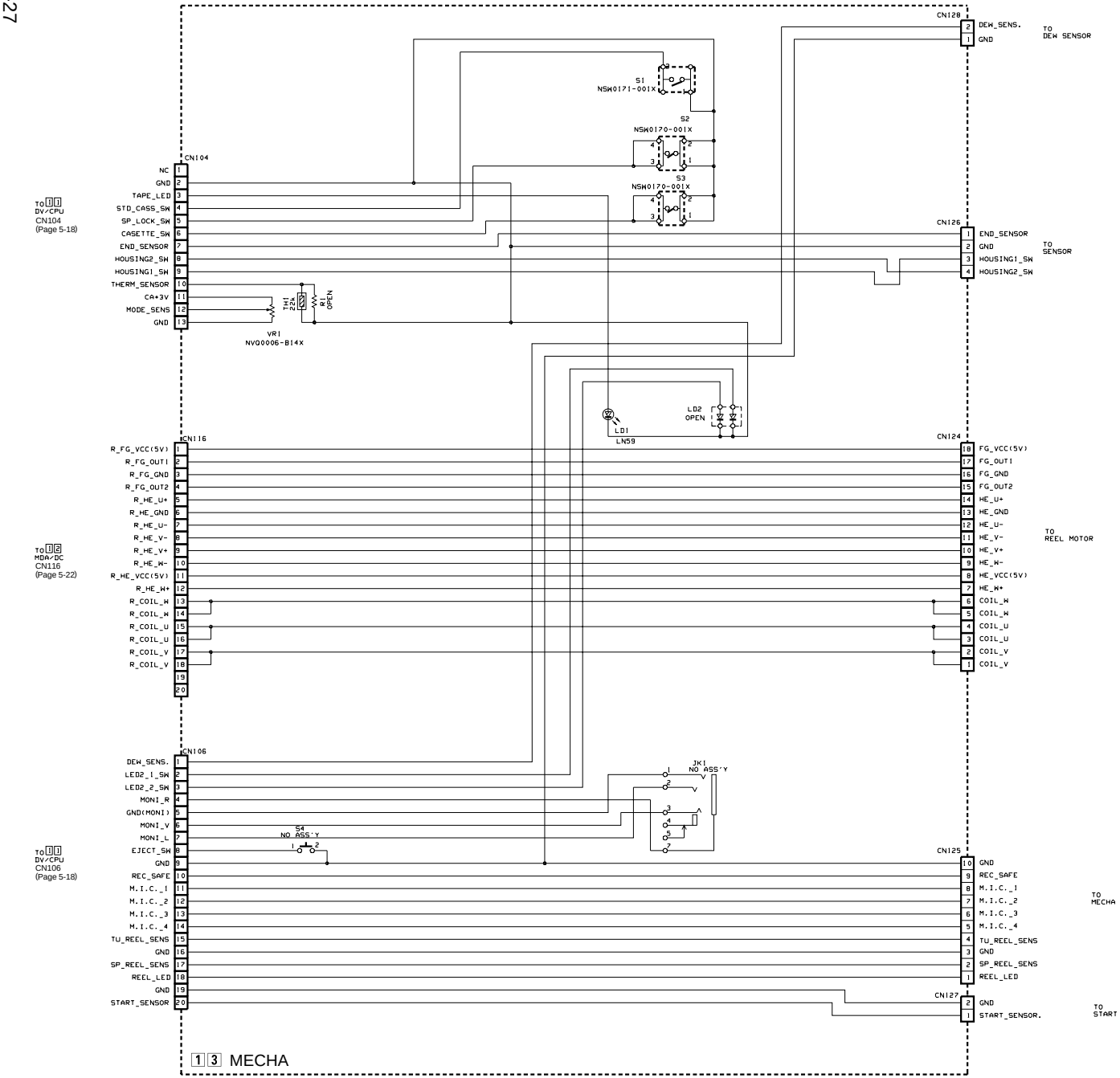



– MIC CIRCUIT BOARD –

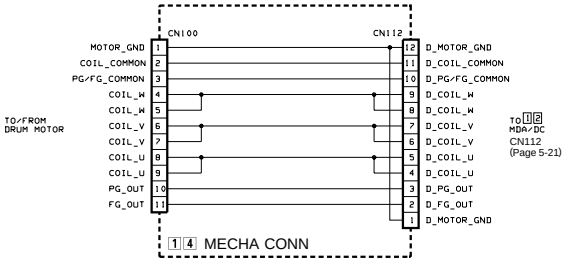
– SIDE A –



## 5.15 MECHA & MECHA CONN SCHEMATIC DIAGRAMS



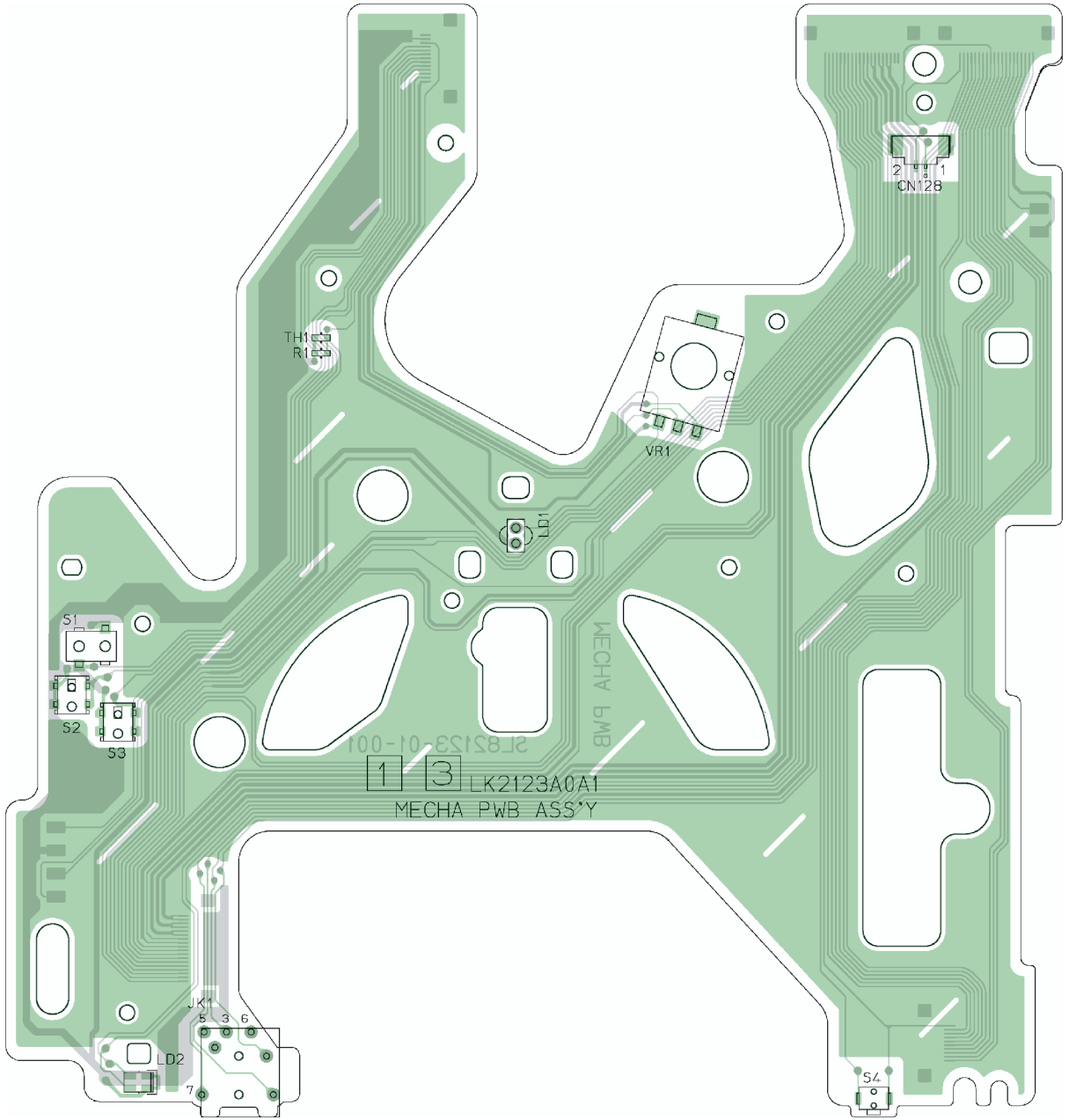

— MECHA CONN —



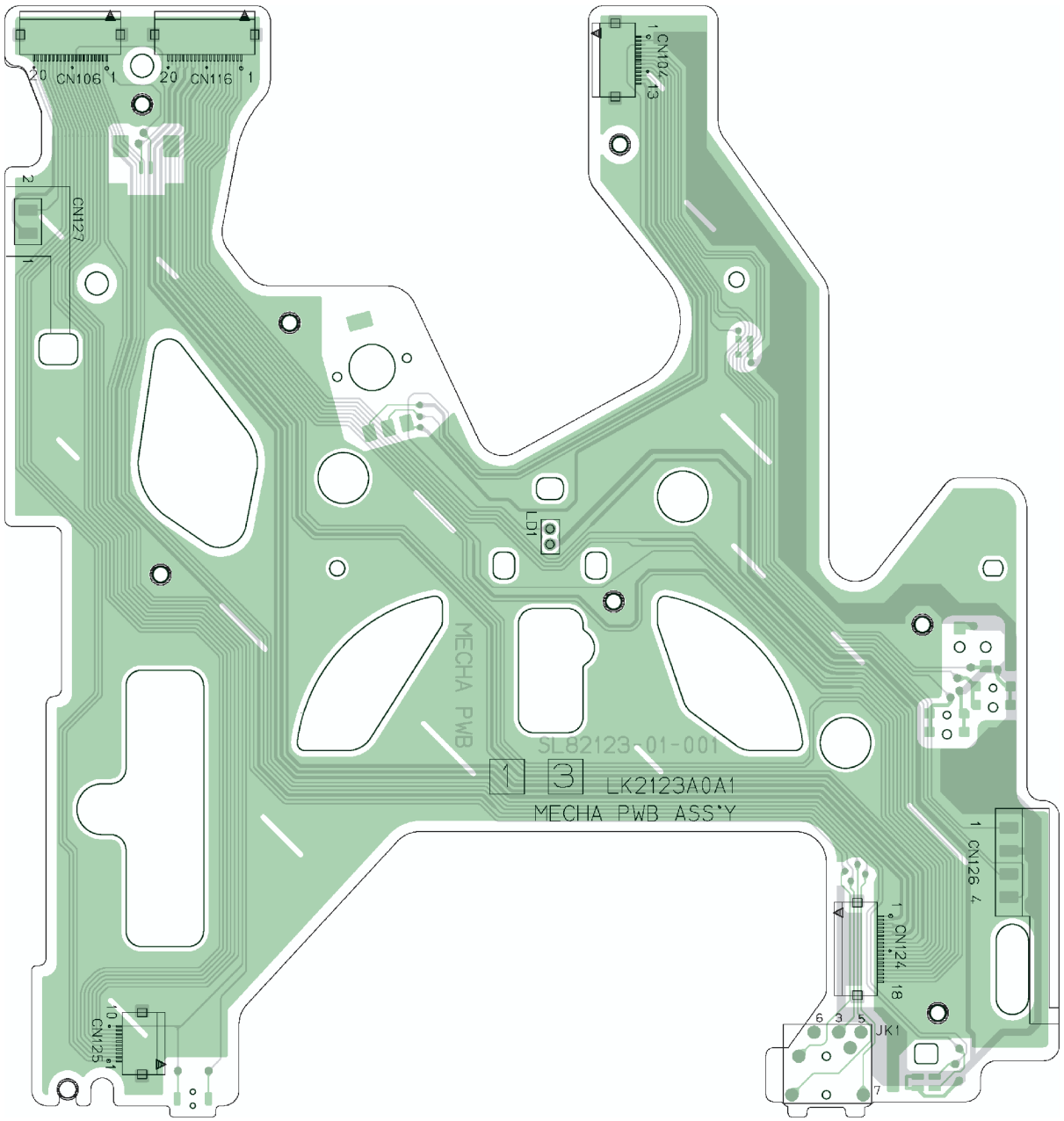
## 5.16 MECHA & MECHA CONN CIRCUIT BOARDS

– MECHA CIRCUIT BOARD –

– SIDE A –

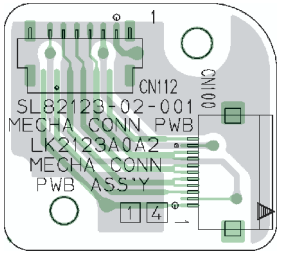


– SIDE B –




– MECHA CONN CIRCUIT BOARD –

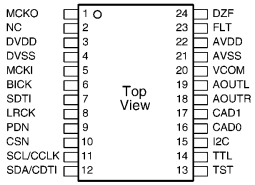
– SIDE A –



## 5.17 IC BLOCK DIAGRAMS

### ■ AK4363VF-X [ASAHI KASEI]
**(Stereo CMOS D/A Converter and Phase Locked Loop)**

#### Pin Layout

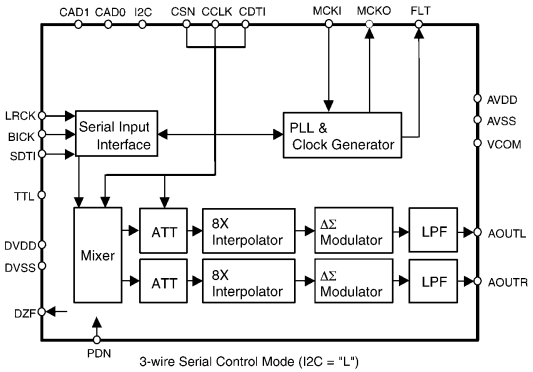



#### Pin/Function

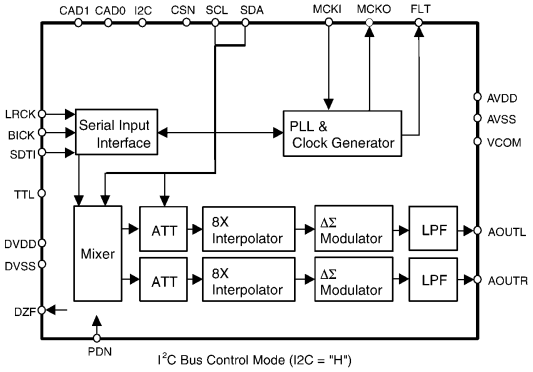
| No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | MCKO | O | Master Clock Output Pin<br>EXT = "0" : System clock is output from PLL circuit (PLL mode),<br>EXT = "1" : Same frequency as MCKI is output (External mode) |
| 2 | NC | - | No Connect<br>Nothing should be connected externally to this pin. |
| 3 | DVDD | - | Digital Power Supply Pin, +2.7~ +5.5V |
| 4 | DVSS | - | Digital Ground Pin, 0V |
| 5 | MCKI | I | System Clock Input Pin<br>EXT = "0" : 27MHz (PLL mode), EXT = "1" : Other frequency (External mode) |
| 6 | BICK | I | Serial Data Clock Pin |
| 7 | SDTI | I | Serial Data Input Pin |
| 8 | LRCK | I | Serial Input Channel Clock Pin |
| 9 | PDN | I | Power-Down Pin<br>When "L", the circuit is in power-down mode.<br>The AK4363 should always be reset upon power-up. |
| 10 | CSN | I | Chip Select Pin at 3-wire Serial control mode<br>This pin should be connected to DVDD at I²C Bus control mode. |
| 11 | SCL | I | Control Clock Pin at I²C bus control mode |
| | CCLK | I | Control Clock Pin at 3-wire serial control mode |
| 12 | SDA | I/O | Control Data Input/Output Pin at I²C Bus control mode |
| | CDTI | I | Control Data Input Pin at 3-wire serial control mode |
| 13 | TST | I | Test pin<br>This pin should be connected to DVSS. |
| 14 | TTL | I | Digital Input Level Select Pin<br>"L" : CMOS, "H" : TTL |
| 15 | I2C | I | Control Mode Select Pin<br>"L" : 3-wire Serial, "H" : I²C Bus |
| 16 | CAD0 | I | Chip Address Select 0 Pin |
| 17 | CAD1 | I | Chip Address Select 1 Pin |
| 18 | AOUTR | O | Rch Analog Output Pin |
| 19 | AOUTL | O | Lch Analog Output Pin |
| 20 | VCOM | O | Common Voltage Output Pin, AVDD/2<br>Used for analog common voltage.<br>Large external capacitor is used to reduce power supply noise. |
| 21 | AVSS | - | Analog Ground Pin |
| 22 | AVDD | - | Analog Power Supply Pin |
| 23 | FLT | O | Output Pin for Loop Filter of PLL Circuit<br>This pin should be connected to AVSS with one resister and one capacitor in series.<br>( See"SYSTEM DESIGN".) |
| 24 | DZF | O | Zero Input Detect Pin<br>When SDTI follows a total 8192 LRCK cycles with "0" input data or RSTN = "0", this pin goes to "H". |

Note: No input pins should be left floating.

#### Block Diagram

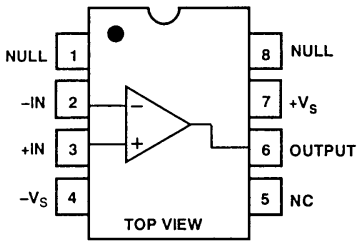



3-wire Serial Control Mode (I2C = "L")



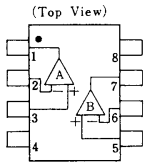

I²C Bus Control Mode (I2C = "H")

### ■ AD817AR-X [ANALOG DEVICES]
**(Hi-Speed Low Power Op.Amp)**



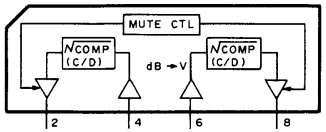

NC = NOT CONNECTED

### ■ BA10393F-XE [ROHM]
**(Dual Comparator)**



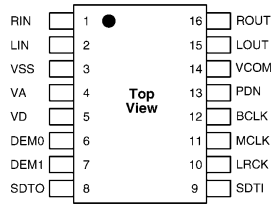

Pin
1. A OUTPUT
2. A–INPUT
3. A+INPUT
4. V⁻
5. B+INPUT
6. B–INPUT
7. B OUTPUT
8. V⁺

### ■ BA6138F-X [ROHM]
**(1/2 square-law compression amplifiers)**




### ■ AK4552VT-X [ASAHI KASEI]
**(Degital Audio A/D & D/A Converter)**

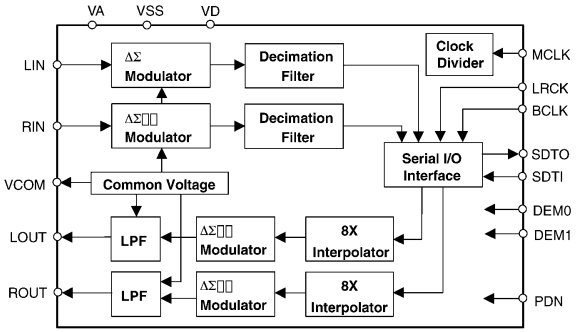
#### Pin Layout



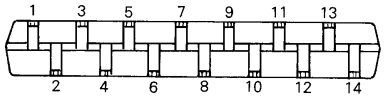

#### Pin/Function

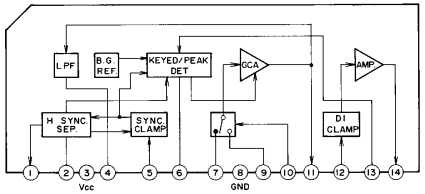
| No. | Pin Name | I/O | Function |
|---|---|---|---|
| 1 | RIN | I | Rch Analog Input Pin |
| 2 | LIN | I | Lch Analog Input Pin |
| 3 | VSS | - | Ground Pin |
| 4 | VA | - | Analog Power Supply Pin |
| 5 | VD | - | Digital Power Supply Pin |
| 6 | DEM0 | I | De-emphasis Control Pin |
| 7 | DEM1 | I | De-emphasis Control Pin |
| 8 | SDTO | O | Audio Serial Data Output Pin |
| 9 | SDTI | I | Audio Serial Data Input Pin |
| 10 | LRCK | I | Input/Output Channel Clock Pin |
| 11 | MCLK | I | Master Clock Input Pin |
| 12 | BCLK | I | Audio Serial Data Clock Pin |
| 13 | PDN | I | Power-Down & Reset Mode Pin<br>"L": Power-down and Reset, "H": Normal operation |
| 14 | VCOM | O | Common Voltage Output Pin, 0.45 x VA |
| 15 | LOUT | O | Lch Analog Output Pin |
| 16 | ROUT | O | Rch Analog Output Pin |

#### Block Diagram

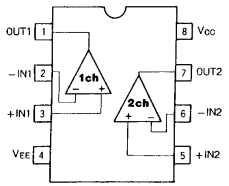


## ■ AN3916-/LF/ [MATSUSHITA]
(Video AGC)

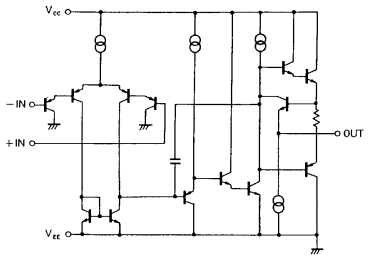


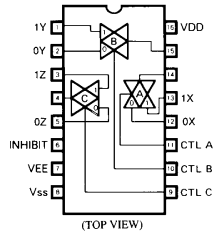

## ■ BA10358F-XE [ROHM]
(Dual Ground Sense Op.Amp)




(Top View)




## ■ CD4053BPW-X [RCA]
(Triple 2 Channel Analog Multiplexers/Demultiplexers)

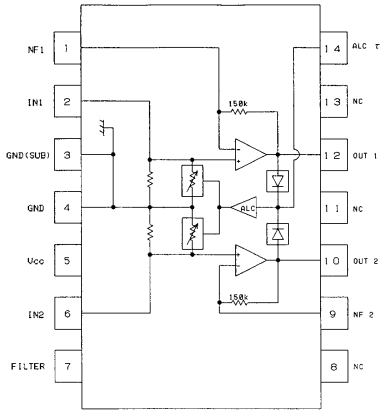



TRUTH TABLE

| CONTROL INPUTS | | | | "ON" CHANNEL |
|---|---|---|---|---|
| INHIBIT | C | B | A | 4053BP<br>4053BF |
| L | L | L | L | 0X, 0Y, 0Z |
| L | L | L | H | 1X, 0Y,0Z |
| L | L | H | L | 0X, 1Y, 0Z |
| L | L | H | H | 1X, 1Y, 0Z |
| L | H | L | L | 0X, 0Y, 1Z |
| L | H | L | H | 1X, 0Y, 1Z |
| L | H | H | L | 0X, 1Y, 1Z |
| L | H | H | H | 1X, 1Y, 1Z |
| H | * | * | * | NOTE |

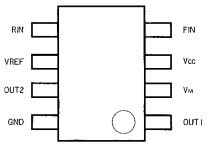
* Don't Care.

## ■ BA3314F-X [ROHM]
(Dual Pre-Amp. for Audio Signal)

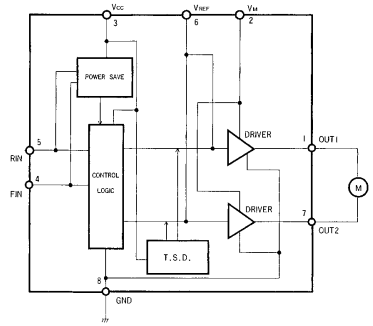



(Top View)

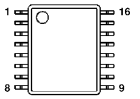
## ■ BA6417F-X [ROHM]
(Reversible Motor Driver)




Top view

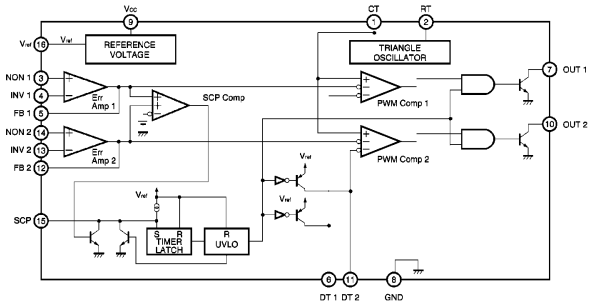



## ■ BA9743AFV-X [ROHM]
(2-channel Switching Regulator Controller)

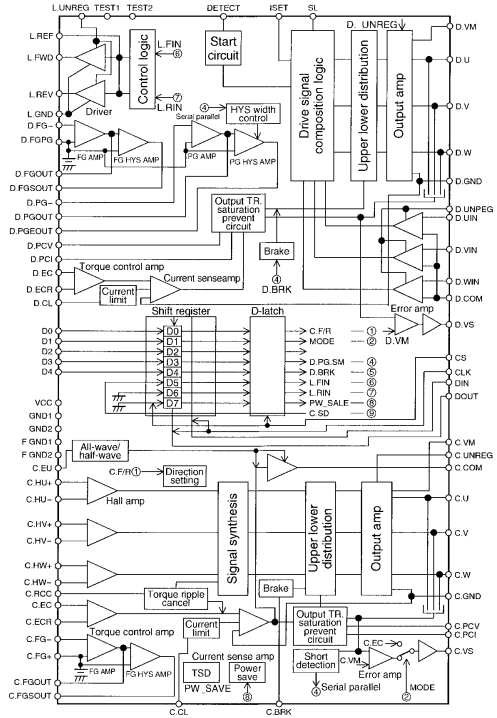



(Top View)

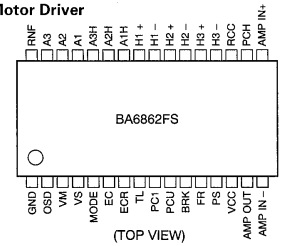
Block Diagram



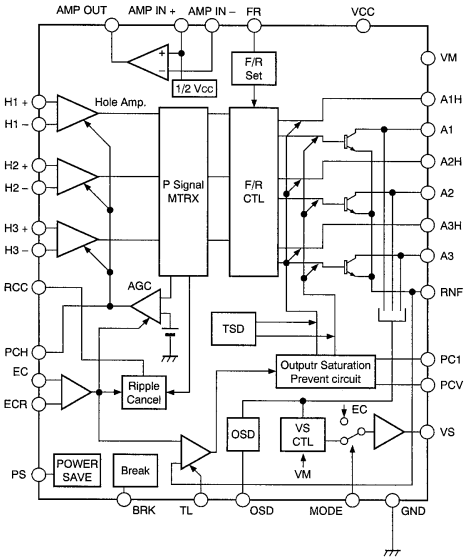

## ■ BA6865KV [ROHM]
(Motor Driver Controller)



## ■ BA6862FS-X [ROHM]
### (Motor Driver

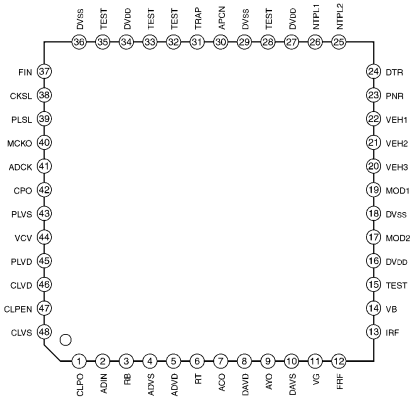


(TOP VIEW)

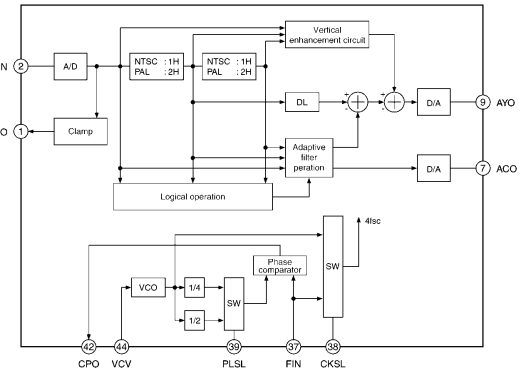



| Pin No. | Symbol | Function |
|---|---|---|
| 1 | GND | GND |
| 2 | OSD | Output detect for short circuit |
| 3 | VM | Power source for motor drive |
| 4 | VS | Control for motor drive |
| 5 | MODE | Current/Voltage switching |
| 6 | EC | Torque control |
| 7 | ECR | Torque reference |
| 8 | TL | Torque limited |
| 9 | PCI | Output saturation prevent level (low level) |
| 10 | PCV | Output saturation prevent level (high level) |
| 11 | BRK | Break input H : Break L : Movement |
| 12 | FR | Foward/Reverse CTL input |
| 13 | PS | Power save H : Stand-by L : Movement |
| 14 | VCC | |
| 15 | AMP OUT | Amplifire output |
| 16 | AMP IN – | Amplifire input (–) |
| 17 | AMP IN + | Amplifire input (+) |
| 18 | PCH | Hole amp, AGC phase compareter |
| 19 | RCC | Ripple cancel |
| 20 | H3 – | Hole signal input |
| 21 | H3 + | Hole signal input |
| 22 | H2 – | Hole signal input |
| 23 | H2 + | Hole signal input |
| 24 | H1 – | Hole signal input |
| 25 | H1 + | Hole signal input |
| 26 | A1H | Pre motor drive output |
| 27 | A2H | Pre motor drive output |
| 28 | A3H | Pre motor drive output |
| 29 | A1 | Motor drive output |
| 30 | A2 | Motor drive output |
| 31 | A3 | Motor drive output |
| 32 | RNF | GND for motor drive |

## ■ CXD2064Q [SONY]
### (DIGITAL COM FILTER (NTSC/PAL))



(Top View)

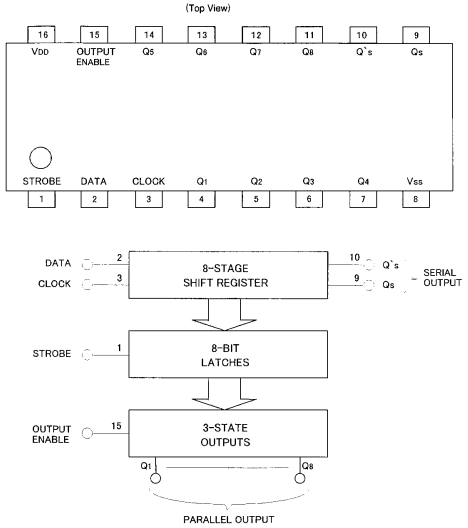



**Pin Description**

| Pin No. | Symbol | I/O | Description |
|---|---|---|---|
| 1 | CLPO | O | Internal clamp circuit current output. Connect to ADIN when using the internal clamp. Leave this pin open when not in use. |
| 2 | ADIN | I | Comb filter analog input (A/D converter input). |
| 3 | RB | O | Reference bottom voltage for the A/D converter (0.52V typ.). |
| 4 | ADVS | — | A/D converter analog ground. |
| 5 | ADVD | — | A/D converter analog power supply. (5.0V) |
| 6 | RT | O | Reference top voltage for the A/D converter (2.60V typ.). |
| 7 | ACO | O | Analog chroma signal output. Output can be obtained by connecting a resistor between this pin and the analog ground. |
| 8 | DAVD | — | D/A converter analog power supply. (5.0V) |
| 9 | AYO | O | Analog luminance signal output. Output can be obtained by connecting a resistor between this pin and the analog ground. |
| 10 | DAVS | — | D/A converter analog ground. |
| 11 | VG | O | D/A converter related pin. Connect a capacitor of approximately 0.1µF between this pin and the analog power supply (DAVD). |
| 12 | VRF | I | Sets the full-scale value of the Y and C-channel D/A converter output signal. |
| 13 | IRF | O | Connect a resistor of "16R" (16 times the output resistor "R" of the D/A converter). |
| 14 | VB | O | D/A converter related pin. Connect to the analog ground (DAVS) via a capacitor of approximately 0.1µF. |
| 15 | TEST | I | Test pin. Normally fix to "Low". |
| 16 | $DV_{DD}$ | — | Digital power supply. (5.0V) |
| 18 | $DV_{SS}$ | — | Digital ground. |
| 17 | MOD2 | I | Y/C separation mode setting. MOD2 L L Adaptive processing mode; H L BPF separation mode; H H Through mode |
| 19 | MOD1 | I | |
| 20 | VEH3 | I | Vertical enhancement setting. Can be set in 8 stages from VEH3 VEH2 VEH1: LLL (off) to HHH (max.) |
| 21 | VEH2 | I | |
| 22 | VEH1 | I | |
| 23 | PNR | I | L: NTSC/H: PAL, M-PAL, N-PAL |
| 24 | DTR | I | Normally fix to "Low". |
| 25 | NTPL2 | I | NTSC/PAL/M-PAL/N-PAL mode setting. NTPL2 NTPL1 L L NTSC; L H PAL; H L M-PAL; H H N-PAL |
| 26 | NTPL1 | I | |
| 27 | $DV_{DD}$ | — | Digital power supply. (5.0V) |

| Pin No. | Symbol | I/O | Description |
|---|---|---|---|
| 28 | TEST | I | Test pin. Normally fix to "Low". |
| 29 | $DV_{SS}$ | — | Digital ground. |
| 30 | APCN | I | Horizontal aperture correction circuit setting. Low: Off, High: On. |
| 31 | TRAP | I | Trap filter setting. Low: Off, High: On. |
| 32 | TEST | I | Test pin. Normally open or fix to "Low". |
| 33 | TEST | I | Test pin. Normally open or fix to "Low". |
| 34 | $DV_{DD}$ | — | Digital power supply. (5.0V) |
| 35 | TEST | I | Test pin. Normally open or fix to "Low". |
| 36 | $DV_{SS}$ | — | Digital ground. |
| 37 | FIN | I | Clock input. Input the burst-locked fsc (2fsc) when using the internal PLL. Input the burst-locked 4fsc when not using the internal PLL. |
| 38 | CKSL | I | PLL control. Low: The internal PLL is not used. The clock (4fsc) which is input to FIN is supplied internally. High: The internal PLL is used. VCO oscillation output 4fsc clock is supplied internally. |
| 39 | PLSL | I | Selects the clock input to FIN. Low: fsc, High: 2fsc. When inputting 4fsc to FIN (when not using the internal PLL), this pin may be set to either "Low" or "High". |
| 40 | MCKO | O | Clock (4fsc) output. |
| 41 | ADCK | I | Clock input for A/D converter. Normally connect to MCKO. |
| 42 | CPO | O | PLL phase comparator output. Leave open when not using the PLL. |
| 43 | PLVS | — | PLL analog ground. |
| 44 | VCV | I | VCO control voltage input. Connect to PLVS when not using the PLL. |
| 45 | PLVD | — | PLL analog power supply. (5.0V) |
| 46 | CLVD | — | Clamp D/A converter analog power supply. (5.0V) |
| 47 | CLPEN | I | Clamp circuit enable pin. Low: Clamp on, High: Clamp off. |
| 48 | CLVS | — | Clamp D/A converter analog ground. |

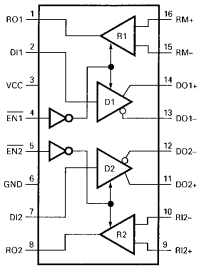
## ■ BU4094BCFV-X [ROHM]
**(8-Stage Shift/Store Register)**




## ■ DS8922M-X [NATIONAL SEMICONDUCTOR]
**(RS-422 Dual Differential Line Driver and Receiver Pairs)**

### Connection Diagrams

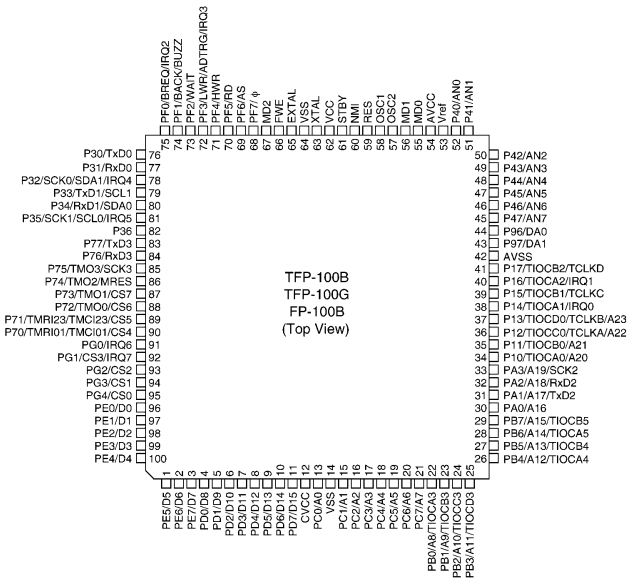
DS8922A Dual-In-Line



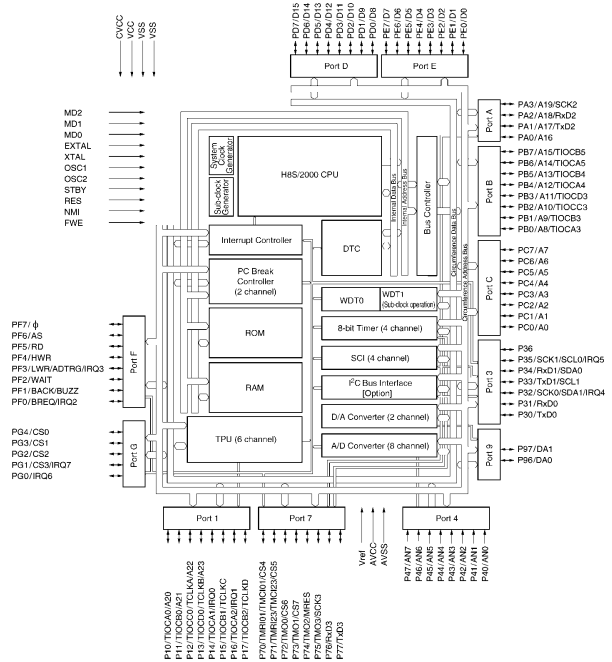

Top View

| $\overline{EN1}$ | $\overline{EN2}$ | RO1 | RO2 | DO1 | DO2 |
|---|---|---|---|---|---|
| 0 | 0 | ACTIVE | ACTIVE | ACTIVE | ACTIVE |
| 1 | 0 | HI-Z | ACTIVE | HI-Z | ACTIVE |
| 0 | 1 | ACTIVE | HI-Z | ACTIVE | HI-Z |
| 1 | 1 | HI-Z | HI-Z | HI-Z | HI-Z |

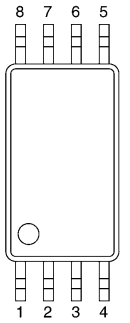
## ■ HD64F2238RFA13 [HITACHI]
**(16-Bit Single Chip Micro Computer)**



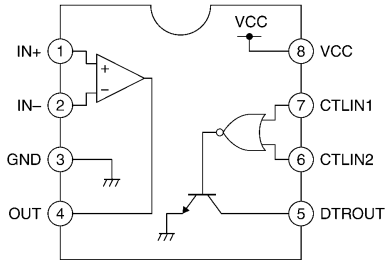

### Block diagram



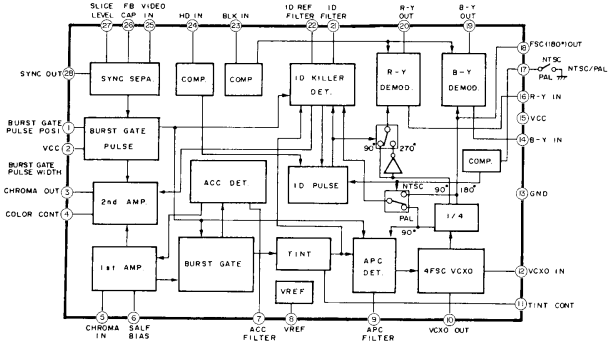

## ■ JCY0136-X [ROHM]
**(High frequency operational amplifier for DVC)**




### Block diagram

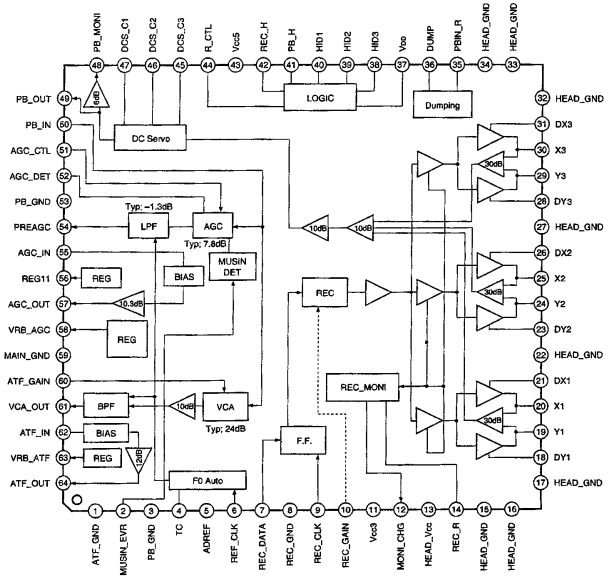



## ■ M51271FP-X [MITSUBISHI]
**(Component Decoder)**



## ■ JCY0132 [SONY]
**(REC/PLAY amplifier for digital VCR)**

**Block diagram**




**Pin description**

| Pin No. | Pin name | Description | Pin No. | Pin name | Description |
|---|---|---|---|---|---|
| 1 | ATF_GND | Ground terminal | 36 | DUMP | HEAD resonance control terminal at playback mode |
| 2 | MUSIN_EVR | EVR terminal for non-signal detection level adjustment of AGC circuit | 37 | VDD | VDD power supply terminal |
| 3 | PB_GND | Ground terminal | 38 | HID3 | Mode control terminal, channel select of playback amplifier and control of recording current measurement circuit |
| 4 | TC | Time constant terminal for F0 auto PLL circuit | 39 | HID2 | Mode control terminal, channel select of recording/playback amplifier |
| 5 | ADREF | ADREF power supply terminal ADREF | 40 | HID1 | Mode control terminal, channel select of recording/playback amplifier |
| 6 | REF_CLK | Reference clock input terminal for F0 auto PLL | 41 | PB_H | Mode control terminal, ON/OFF of playback circuit |
| 7 | REC_DATA | REC DATA input terminal | 42 | REC_H | Mode control terminal, ON/OFF of recording circuit |
| 8 | REC_GND | Ground terminal | 43 | Vcc5 | Vcc5 power supply terminal |
| 9 | REC_CLK | REC CLOCK input terminal | 44 | R_CTL | Mode control terminal, ON/OFF of recording current output |
| 10 | REC_GAIN | Adjusting terminal for recoding current | 45 | DCS_C3 | Time constant terminal for DC servo circuit |
| 11 | Vcc3 | Vcc3 power supply terminal | 46 | DCS_C2 | Time constant terminal for DC servo circuit |
| 12 | MONI_CHG | Monitor terminal for recording current output level : REC mode, Quick charge pulse input terminal of TC terminal : PB mode | 47 | DCS_C1 | Time constant terminal for DC servo circuit |
| 13 | HEAD_Vcc | Power supply terminal of R/P amplifier section | 48 | PB_MONI | PB amplifier monitor terminal |
| 14 | REC_R | External resistor connecting terminal for recording current output level monitor | 49 | PB_OUT | PB amplifier output terminal |
| 15 | HEAD_GND | Ground terminal | 50 | PB_IN | PB MAIN/ATF input terminal |
| 16 | HEAD_GND | Ground terminal | 51 | AGC_CTL | AGC control terminal for MAIN family |
| 17 | HEAD_GND | Ground terminal | 52 | AGC_DET | Time constant terminal for MAIN family |
| 18 | DY1 | Damping resistor connecting terminal | 53 | PB_GND | Ground terminal |
| 19 | Y1 | HEAD terminal | 54 | PREAGC | AGC+LPF output terminal for MAIN family |
| 20 | X1 | HEAD terminal | 55 | AGC_IN | 10.3dB amplifier input terminalfor MAIN family |
| 21 | DX1 | Damping resistor connecting terminal | 56 | REG11 | Regulator 1.1V output terminal |
| 22 | HEAD_GND | Ground terminal | 57 | AGC_OUT | Output terminal for MAIN family |
| 23 | DY2 | Damping resistor connecting terminal | 58 | VRB_AGC | Bottom reference voltage output terminal for A/D converter of MAIN family |
| 24 | Y2 | HEAD terminal | 59 | MAIN_GND | Ground terminal |
| 25 | X2 | HEAD terminal | 60 | ATF_GAIN | VCA control terminal for ATF family |
| 26 | DX2 | Damping resistor connecting terminal | 61 | VCA_OUT | VCA+BPF output terminal for ATF family |
| 27 | HEAD_GND | Ground terminal | 62 | ATF_IN | 12dB amplifier input terminal for ATF family |
| 28 | DY3 | Damping resistor connecting terminal | 63 | VRB_ATF | Bottom reference voltage output terminal for A/D converter of ATF family |
| 29 | Y3 | HEAD terminal | 64 | ATF_OUT | Output terminal for ATF family |
| 30 | X3 | HEAD terminal | | | |
| 31 | DX3 | Damping resistor connecting terminal | | | |
| 32 | HEAD_GND | Ground terminal | | | |
| 33 | HEAD_GND | Ground terminal | | | |
| 34 | HEAD_GND | Ground terminal | | | |
| 35 | PBIN_R | External resistor connecting terminal for playback reference current | | | |

## ■ M95320-WMN6-X [ST MICROELECTRONICS]
**(64/32 Kbit Serial SPI Bus EEPROM)**

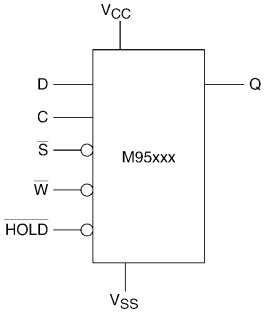



(Top View)

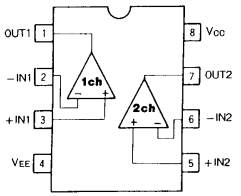
**Signal Names**

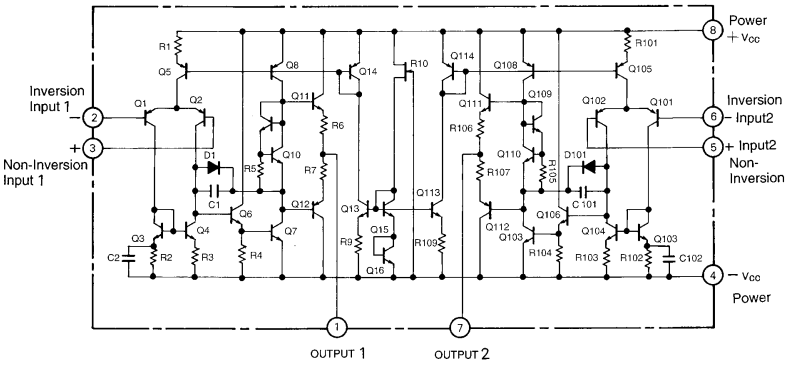
| | |
|---|---|
| C | Serial Clock |
| D | Serial Data Input |
| Q | Serial Data Output |
| $\overline{S}$ | Chip Select |
| $\overline{W}$ | Write Protect |
| $\overline{HOLD}$ | Hold |
| $V_{CC}$ | Supply Voltage |
| $V_{SS}$ | Ground |

**Logic Diagram**

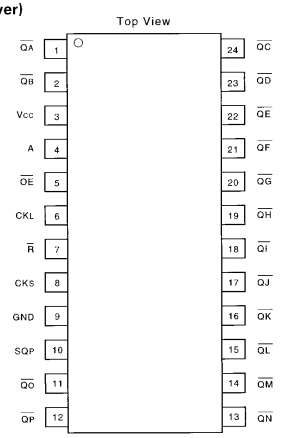



## ■ M5218AFP-X [MITSUBISHI]
**(Dual Op.Amp.)**

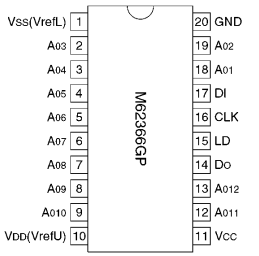



## ■ M66311FP-X [MITSUBISHI]
**(LED Driver)**



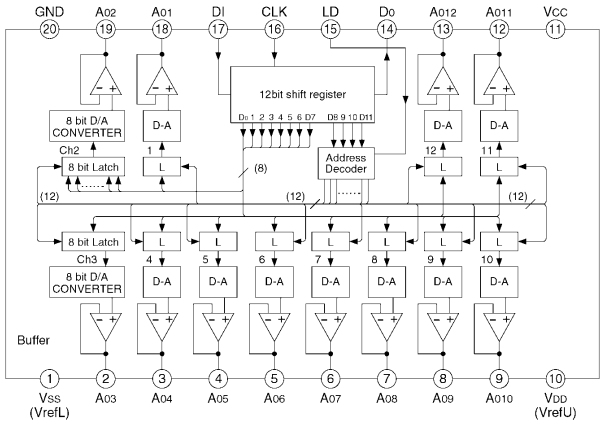
## ■ M62366GP-X [MITSUBISHI]
## (8bit 12channel D/A converter)



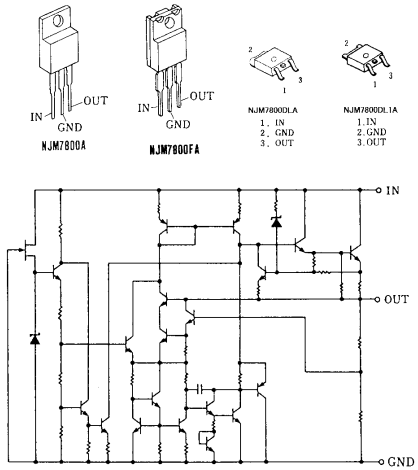

(TOP VIEW)

| Pin No. | Symbol | Function |
|---|---|---|
| ⑰ | DI | Serial data input terminal to input 12-bit long serial data |
| ⑭ | DO | Terminal to output MSB data of 12-bit shift register |
| ⑯ | CLK | Shift clock input terminal.Input signal at DI pin is input to 12-bit shift register at rise of shift clock pulse |
| ⑮ | LD | When H-level signal is input to this terminal,the value stored in 12-bit shift register is loaded in decoder and D-A converter output register |
| ⑱ ⑲ ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑫ ⑬ | A01 A02 A03 A04 A05 A06 A07 A08 A09 A010 A011 A012 | 8-bit D-A converter output terminal |
| ⑪ | VCC | Power supply terminal |
| ⑳ | GND | GND terminal |
| ⑩ | VDD | D-A converter upper reference voltage input terminal |
| ① | VSS | D-A converter lower reference voltage input terminal |

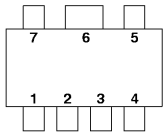
### Block Diagram


GND A02 A01 DI CLK LD DO A012 A011 VCC
20 19 18 17 16 15 14 13 12 11
8 bit D/A CONVERTER
Ch2
8 bit Latch
12bit shift register
DI 1 2 3 4 5 6 D7 D8 9 10 D11
Address Decoder
D-A
L
(8)
(12)
8 bit Latch
Ch3
8 bit D/A CONVERTER
Buffer
1 2 3 4 5 6 7 8 9 10
VSS (VrefL) A03 A04 A05 A06 A07 A08 A09 A010 VDD (VrefU)

## ■ NJM78M05DL1A-X [JRC]
## (3-Terminal Positive Voltage Regulator (+5V))



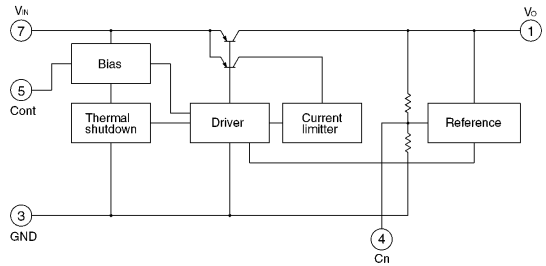

## ■ MM1565AF-X [MITSUMI]
## (500mA Regulator (5V))



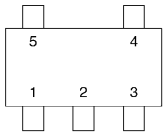

(TOP VIEW)

| | |
|---|---|
| 1 | VO |
| 2 | NC |
| 3 | GND |
| 4 | Cn |
| 5 | CONT |
| 6 | Sub |
| 7 | VIN |

### Block Diagram



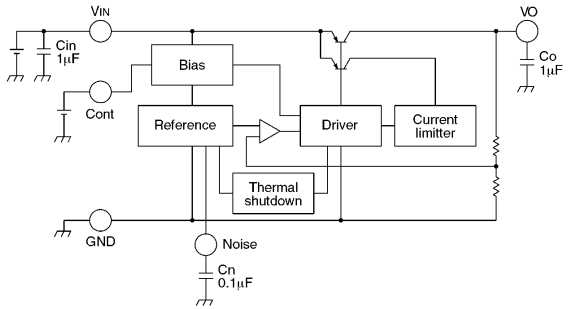

## ■ MM1571JN-X [MITSUMI]
## (1.8V Regulator)




SOT-25A
(TOP VIEW)

| | |
|---|---|
| 1 | VIN |
| 2 | GND |
| 3 | Cont |
| 4 | Noise |
| 5 | VO |

### Block Diagram



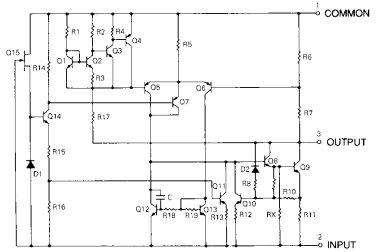

## ■ MM1572FN-X [MITSUMI]
## (Refer to MM1571JN-X.)

## ■ MM1572KN-X [MITSUMI]
## (Refer to MM1571JN-X.)

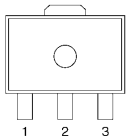
## ■ NJM79L05UA-X [JRC]
## (3-Terminal Negative Voltage Regulator (-5V))

1. COMMON
2. IN
3. OUT

NJM79L00UA



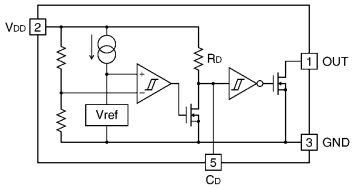

## ■ NJU7222U30-X [JRC]
## (3-Terminal Positive Voltage Regulator)




1. GND
2. INPUT
3. OUTPUT

## ■ RN5VD26AA-X [RICHO]
**(Voltage detector)**

Block diagram

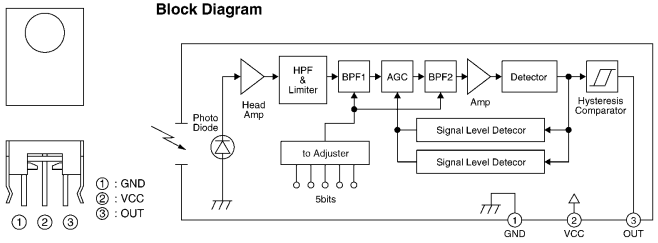



Pin descriptions

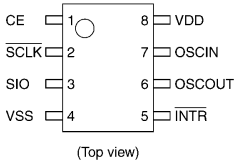
| Pin Number | Pin Name | Pin Description |
|---|---|---|
| 1 | OUT | Output terminal |
| 2 | VDD | Power supply terminal |
| 3 | GND | Ground terminal |
| 4 | NC | Not connect |
| 5 | CD | External capacitor connecting terminal for delay |

## ■ SBX3071-52 [SONY]
**(Remote Control Receiver)**

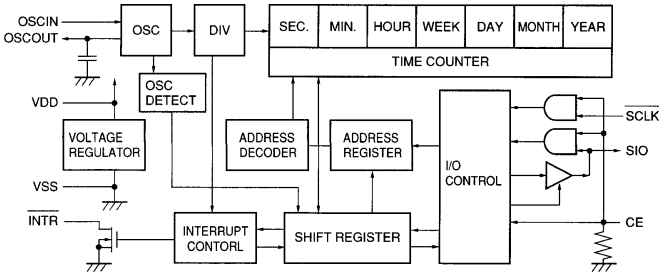
**Block Diagram**



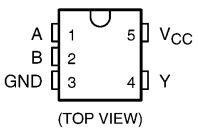

## ■ RS5C314-X [RICHO]
**(CMOS Realtime Clock)**




**Block diagram**



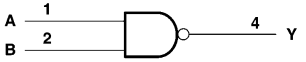

## ■ SN74AHC1G00K-X [TEXAS INSTRUMENTS]
**(Single 2-Input Positive NAND Gate)**



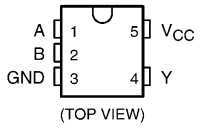

**FUNCTION TABLE**

| INPUTS A | INPUTS B | OUTPUT Y |
|---|---|---|
| H | H | L |
| L | X | H |
| X | L | H |

**Logic diagram (positive logic)**




## ■ SN74AHC1G32K-X [TEXAS INSTRUMENTS]
**(Single 2-Input Positive OR Gate)**

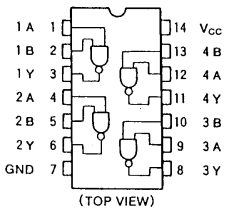



**FUNCTION TABLE**

| INPUTS A | INPUTS B | OUTPUT Y |
|---|---|---|
| H | X | H |
| X | H | H |
| L | L | L |

**Logic diagram (positive logic)**

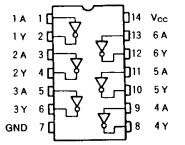
## ■ SN74AHC00PW-X [TEXAS INSTRUMENTS]
**(Quad 2-Input NAND Gates)**



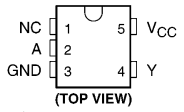

TRUE Table

| A | B | Y |
|---|---|---|
| L | L | H |
| L | H | H |
| H | L | H |
| H | H | L |

## ■ SN74AHC04PW-X [TEXAS INSTRUMENTS]
**(Hex Inverters)**



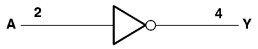
## ■ SN74AHC1GU04K-X [TEXAS INSTRUMENTS]
**(Single Inverter Gate)**



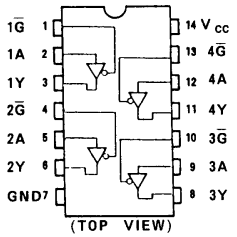

NC – No internal connection

**FUNCTION TABLE**

| INPUT A | OUTPUT Y |
|---|---|
| H | L |
| L | H |




## ■ SN74AHCT125PW-X [TEXAS INSTRUMENTS]
**(Quad Bus Buffer Gates With 3-State Outputs)**

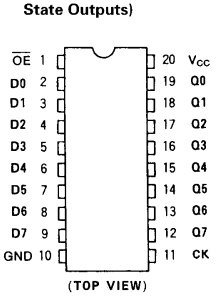



TC74HC125A TRUE Table

| INPUTS G | INPUTS A | OUTPUTS Y |
|---|---|---|
| H | X | Z |
| L | L | L |
| L | H | H |

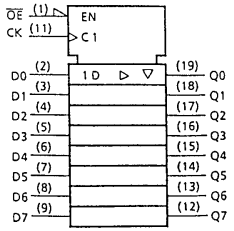
X : Don't Care
Z : High Impedance

## ■ SN74AHC574PW-X [TEXAS INSTRUMENTS]
**(Octal D-Type EDGE-Trigger Flip-Flop With NON Inverted 3-State Outputs)**



(TOP VIEW)

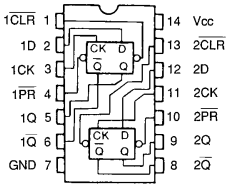
Logic




| INPUTS | | | OUTPUT |
|---|---|---|---|
| $\overline{OE}$ | CK | D | |
| H | X | X | Z |
| L | ↓ | X | $Q_n$ |
| L | ↑ | L | L |
| L | ↑ | H | H |

X : Don't Care
Z : High Impedance
Qn : No Change

## ■ SN74AHC74PW-X [TEXAS INSTRUMENTS]
**(Dual D-Type Flip-Flop with Preset and Clear)**



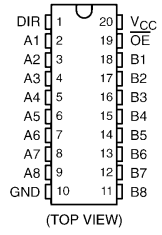
(Top View)

TRUE Table

| INPUTS | | | | OUTPUTS | | FUNCTION |
|---|---|---|---|---|---|---|
| $\overline{CLR}$ | $\overline{PR}$ | D | CK | Q | $\overline{Q}$ | |
| L | H | X | X | L | H | CLEAR |
| H | L | X | X | H | L | PRESET |
| L | L | X | X | H | H | — |
| H | H | L | ↑ | L | H | — |
| H | H | H | ↑ | H | L | — |
| H | H | X | L | $Q_n$ | $\overline{Q}_n$ | NO CHANGE |

X : Don't care

## ■ SN74AHC245DGV-X [TEXAS INSTRUMENTS]
**(Octal Bus Transceivers with 3-State Outputs)**

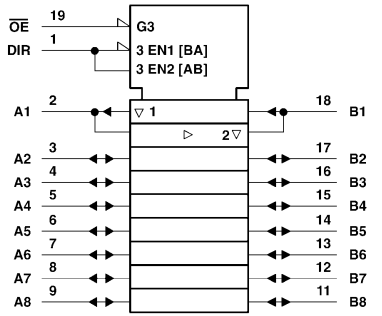


(TOP VIEW)

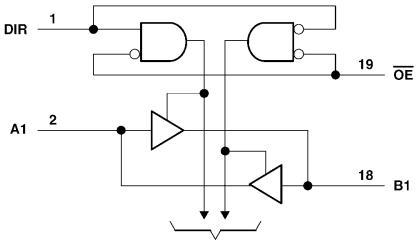
**FUNCTION TABLE**
(each transceiver)

| INPUTS | | OPERATION |
|---|---|---|
| $\overline{OE}$ | DIR | |
| L | L | B data to A bus |
| L | H | A data to B bus |
| H | X | Isolation |

### Logic symbol

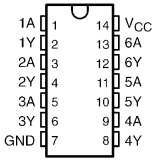



### Logic diagram (positive logic)



To Seven Other Channels

## ■ SN74AHCT04PW-X [TEXAS INSTRUMENTS]
**(Hex Inverters)**

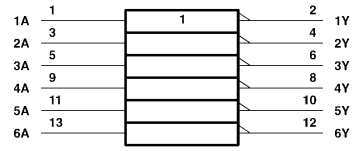


(TOP VIEW)

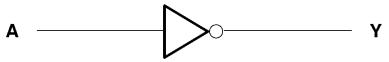
**FUNCTION TABLE**
(each inverter)

| INPUT A | OUTPUT Y |
|---|---|
| H | L |
| L | H |

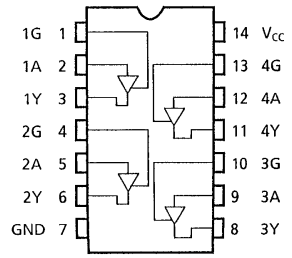
### Logic symbol




### Logic diagram, each inverter (positive logic)




## ■ SN74LV126ADGV-X [TEXAS INSTRUMENTS]
**(Bus Buffer Gates with 3-State Output)**

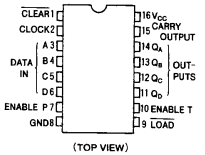


(TOP VIEW)

| INPUTS | | OUTPUTS |
|---|---|---|
| G | A | Y |
| L | X | Z |
| H | L | L |
| H | H | H |

X: Don't Care
Z : High Impedance

## ■ SN74HC161APW-X [TEXAS INSTRUMENTS]
**(Synchronous 4-Bit Counters Binary, Direct Clear)**



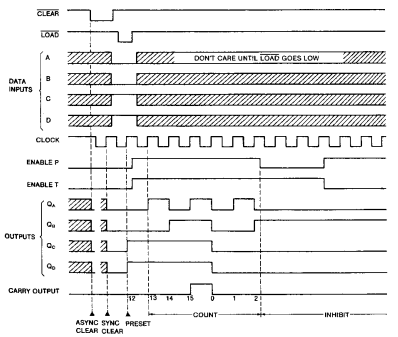
(TOP VIEW)

• THRU TABLE

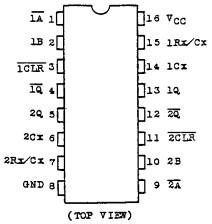
| INPUTS | | | | | OUTPUTS | | | | FUNCTION |
|---|---|---|---|---|---|---|---|---|---|
| $\overline{CLR}$ | $\overline{LD}$ | ENP | ENT | CK | $Q_A$ | $Q_B$ | $Q_C$ | $Q_D$ | |
| L | X | X | X | X | L | L | L | L | Reset to "0" |
| H | L | X | X | ↑ | A | B | C | D | Preset Data |
| H | H | X | L | X | No change | | | | Do not count |
| H | H | L | X | X | No change | | | | Do not count |
| H | H | H | H | ↑ | Count up | | | | Count |

Note X : Don't care
A,B,C,D : Logic level of input data
Carry : CARRY=ENT·QA·QB·QC·QD

### Timing chart



## ■ TC74VHC221AFT-X [TOSHIBA]
**(Dual Monostable Multivibrators (With Schmitt Trigger Input))**

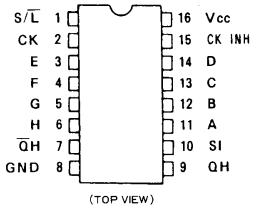



True Table

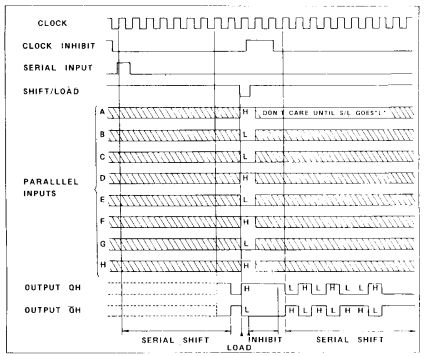
| INPUTS | | | OUTPUTS | | NOTE |
|---|---|---|---|---|---|
| $\overline{A}$ | B | CL | Q | $\overline{Q}$ | |
| ↓ | H | H | ⎍ | ⎍ | OUTPUT ENABLE |
| X | L | H | L | H | INHIBIT |
| H | X | H | L | H | INHIBIT |
| L | ⎍ | H | ⎍ | ⎍ | OUTPUT ENABLE |
| L | H | ⎍ | ⎍ | ⎍ | OUTPUT ENABLE |
| X | X | L | L | H | INHIBIT |

X : DON'T CARE

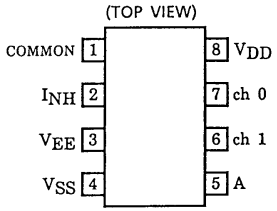
## ■ SN74LV165ADGV-X [TEXAS INSTRUMENTS]
**(8-Bit Serial or Parallel-In/Serial Out Shift Registers)**




**Timing chart**




## ■ TC4W53FU-X [TOSHIBA]
**(2-Channel Multiprexer)**




Truth table

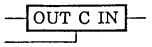
| CONTROL C | IMPEDANCE BETWEEN IN-OUT ※ |
|---|---|
| H | $0.5\sim5\times10^{2}\Omega$ |
| L | $>10^{9}\Omega$ |

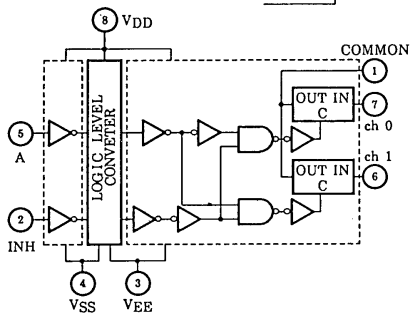
※ Don't Care

Truth table

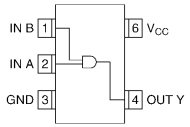
| CONTROL INPUT | | ON CHANNEL |
|---|---|---|
| INH | A | |
| L | L | ch 0 |
| L | H | ch 1 |
| H | ※ | NONE |

※ Don't Care




## ■ TC7SET08F-X [TOSHIBA]
**(2-input AND GATE)**

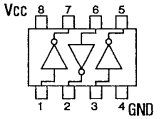



(TOP VIEW)

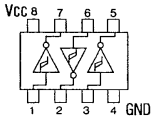
**TRUTH TABLE**

| A | B | Y |
|---|---|---|
| L | L | L |
| L | H | L |
| H | L | L |
| H | H | H |

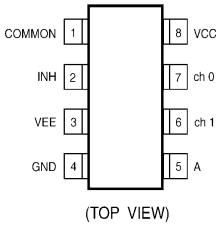
## ■ TC7W04F-X [TOSHIBA]
**(Triple Inverter Gate)**




## ■ TC7W14FU-X [TOSHIBA]
**(Schmitt Trigger Triple Inverte Gate)**




## ■ TC7W53FU-X [TOSHIBA]
**(2-Channel Multiplexer/Demultiplexer)**



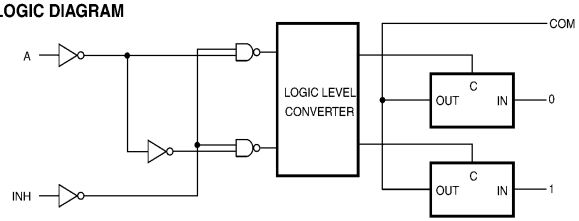

(TOP VIEW)

**TRUTH TABLE**

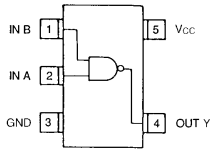
| CONTROL INPUT | | ON CHANNEL |
|---|---|---|
| INH | A | |
| L | L | ch 0 |
| L | H | ch 1 |
| H | x | NONE |

x : Don't care

**LOGIC DIAGRAM**

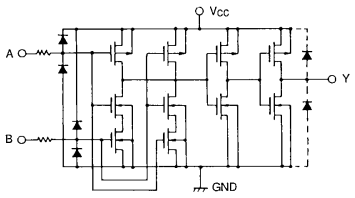



## ■ TC7SH00FU-X [TOSHIBA]
**(2-Input NAND Gate)**

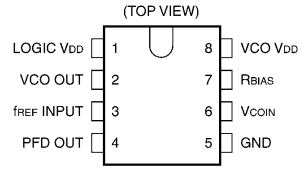


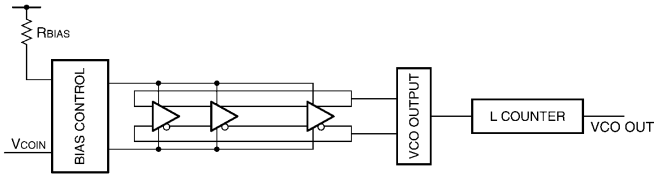

TRUE Table

| A | B | Y |
|---|---|---|
| L | L | H |
| L | H | H |
| H | L | H |
| H | H | L |

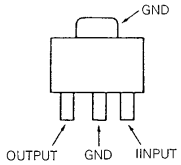


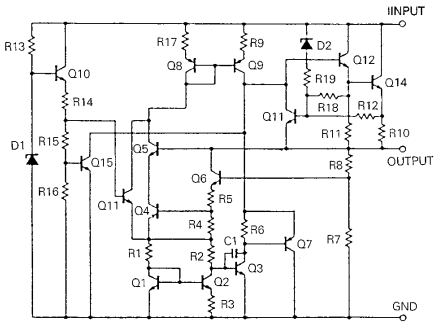
## ■ TLC2940IPW-X [TEXAS INSTRUMENTS] (75MHz CMOS VCO)



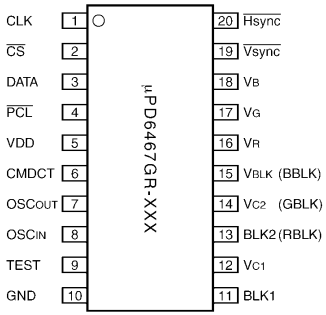




## ■ UPC78L05T-W [NEC] (3-Terminal Positive Voltage Regulator (+5V))



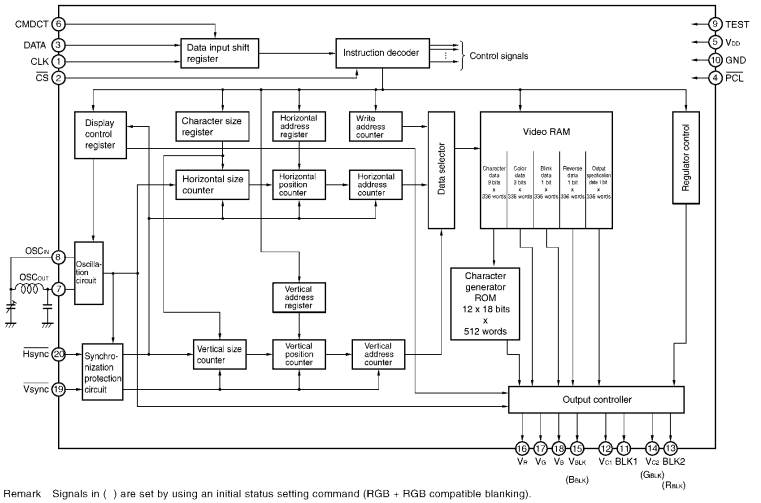




## ■ UPD6467GR-519-X [NEC] (ON-SCREEN CHARACTER DISPLAY)




(Top View)

### BLOCK DIAGRAM




Remark Signals in ( ) are set by using an initial status setting command (RGB + RGB compatible blanking).

# SECTION 6

# EXPLODED VIEWS
# &
# REPLACEMENT PARTS LIST

Note:

1. *Be sure to make your orders of replacement parts according to this list.
2. Unless otherwise specified, all resistors are in OHMS, K=1,000 OHMS, all capacitors are in MICROFARADS (μF), P=μμF.
3. The P.C. Board unit marked with "■" shown below the main assembled parts.
4. The parts marked with Ⓔ on the exploded view show the electric parts.
5. IMPORTANT SAFETY NOTICE
   Components identified with the mark ⚠ have the special characteristics for safety. When replacing any of these components, use only the same type.
6. The marking (RTL) indicates the retention time is limited for this item.
   After the discontinuation of this assembly in production, it will no longer be available.
7. "M" in Remark column indicates needed in the periodical maintenance.

## CONTENTS


SERVICING FIXTURES & TOOLS

MECHANISM PARTS ASSEMBLY.....PRT-1

CABINET PARTS ASSEMBLY .....PRT-3

PACKING PARTS ASSEMBLY.....PRT-5

ELECTRICAL REPLACEMENT PARTS LIST .....PRT-7


## SERVICING FIXTURES & TOOLS

| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| | | | | |
| 1 | VFK1842 | ALIGNMENT TAPE | 1 | |
| 2 | VFK1843 | CASSETTE TORQUE METER | 1 | FOR FWD MODE |
| 2 | VFK1844 | CASSETTE TORQUE METER | 1 | FOR REV MODE |
| 3 | VFK1149 | POST DRIVER | 1 | |
| 4 | VFK1209 | TORQUE SCREWDRIVER | 1 | |
| 4 | VFK1845 | TORQUE SCREWDRIVER | 1 | REPLACEABLE BIT(LONG TYPE) |
| 5 | VFK1846 | REWRITE BOARD | 1 | |
| | | | | |
| | | | | |
| | | | | |

| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| | | | | |
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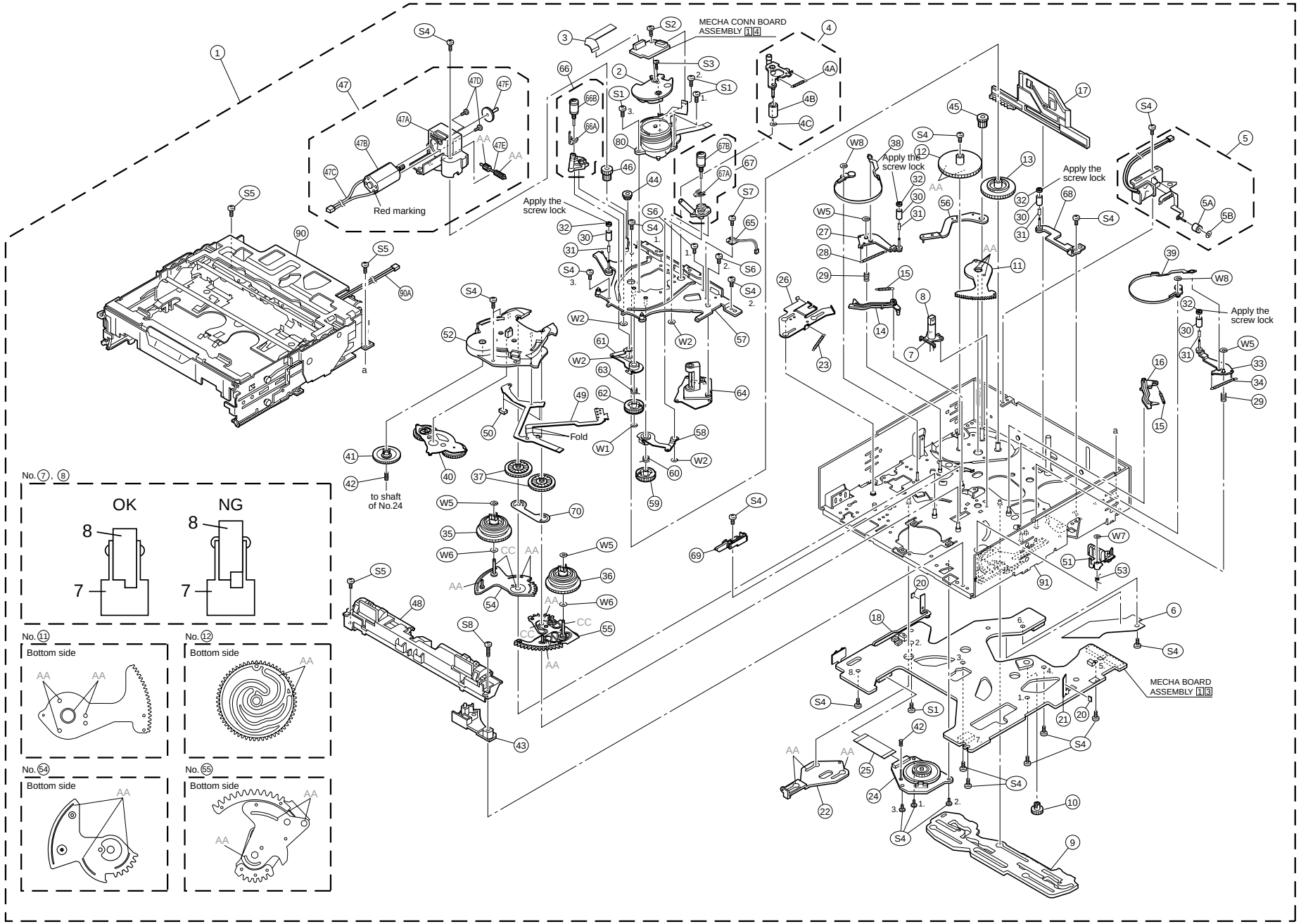
# MECHANISM PARTS ASSEMBLY




PRT-1

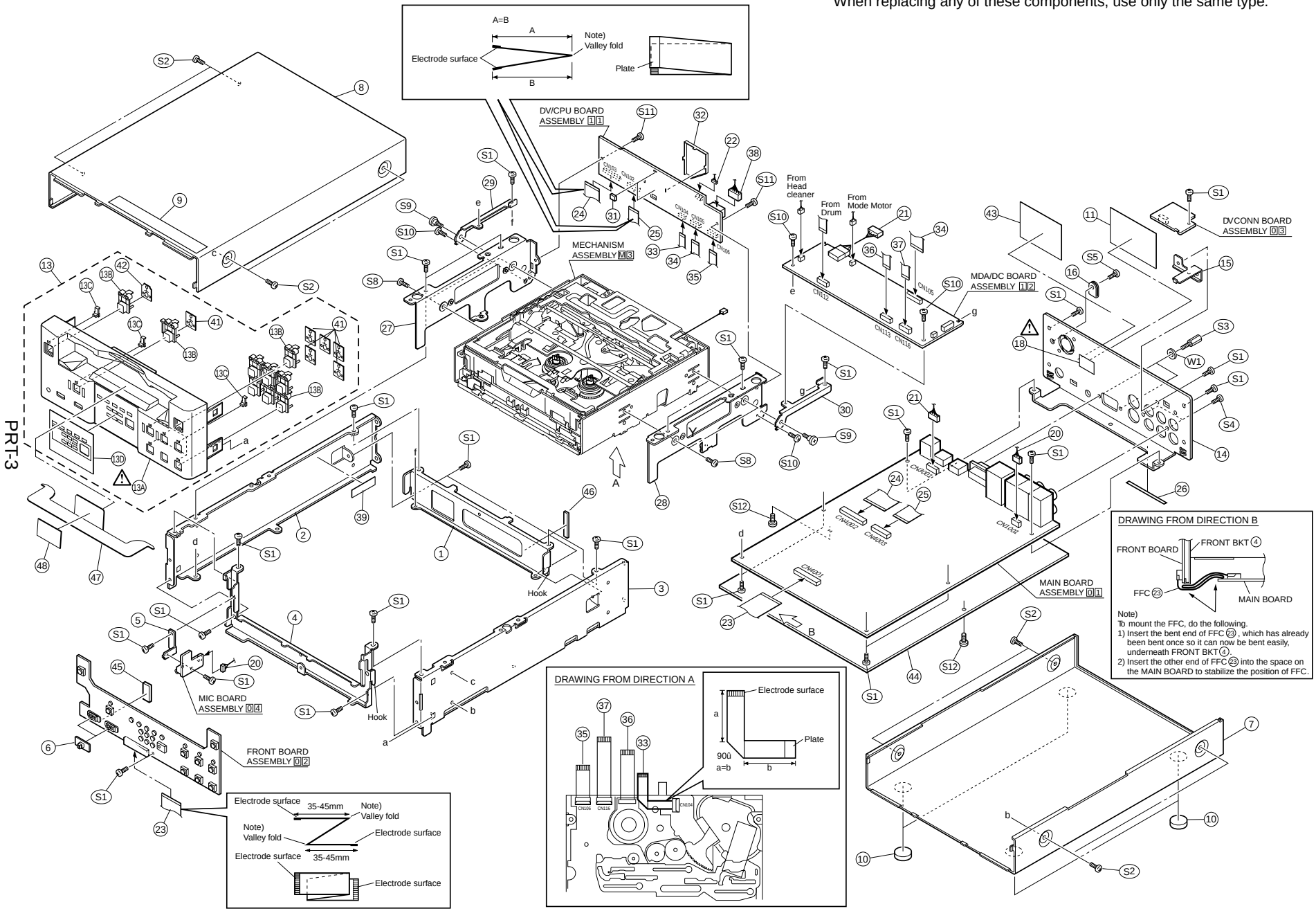
# MECHANISM PARTS ASSEMBLY

| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| | | | | |
| 1 | LL30247-001A | MECHANISM ASS'Y | 1 | |
| 2 | LL20081-001A | TAPE GUARD | 1 | |
| 3 | WJT0085-001A | WIRE | 1 | |
| 4 | LL40370-001A | P.ARM F.ASS'Y | 1 | |
| 4A | LL40357-001A | TEN.SPRING(P.A) | 1 | |
| 4B | LL40313-001A | PINCH ROLLER | 1 | |
| 4C | LY40382-001A | P.ROLLER CAP | 1 | |
| 5 | LL40371-001A | H.CLEANER ASS'Y | 1 | |
| 5A | LY41249-001A | HEAD CLEANER SA | 1 | |
| 5B | QYWDM0802725 | SLIT WASHER | 1 | |
| 6 | LL40341-001A | GUIDE SHEET | 1 | |
| 7 | LL30257-001A | LED HOLDER | 1 | |
| 8 | LN59 | L.E.D. | 1 | |
| 9 | LL20071-001A | CTL.PLATE | 1 | |
| 10 | LL30254-001A | M.SENSOR GEAR | 1 | |
| 11 | LL30260-001B | ARM GEAR | 1 | |
| 12 | LL20072-001A | MAIN CAM | 1 | |
| 13 | LL40241-001A | P.CAM GEAR | 1 | |
| 14 | LL30258-001A | SUP REEL LOCK | 1 | |
| 15 | LL40352-001A | TEN.SPRING(R.L) | 2 | |
| 16 | LL30259-001A | TU REEL LOCK | 1 | |
| 17 | LL30262-001A | PINCH PLATE | 1 | |
| 18 | NAL0015-001 | FPC 2 ASSEMBLY | 1 | |
| 20 | CPT-230 | PH.TRANSISTOR | 2 | |
| 21 | NAL0016-001 | FPC 3 ASSEMBLY | 1 | |
| 22 | LL30255-001A | F.LOCK LEVER | 1 | |
| 23 | LL40351-001A | TEN.SPRING(FLL) | 1 | |
| 24 | QAR0247-001 | REEL MOTOR | 1 | |
| 25 | WJT0084-001A | FFC | 1 | |
| 26 | LL30256-001B | SW LEVER | 1 | |
| 27 | LL30263-001A | SUP TEN.ARM SA. | 1 | |
| 28 | LL40259-001B | TEN.SPRING(STA) | 1 | |
| 29 | LL40362-001A | COMP.SPRING | 2 | |
| 30 | LL40325-001A | GUIDE ROLLER | 4 | |
| 31 | LL40326-001A | COLLAR | 4 | |
| 32 | LL40327-001A | FLANGE | 4 | |
| 33 | LL30265-001B | TU TEN.ARM SA. | 1 | |
| 34 | LL40353-001A | TEN.SPRING(TTA) | 1 | |
| 35 | LL30281-001A | SUP R.DISK ASSY | 1 | |
| 36 | LL30284-001A | TU R.DISK ASS'Y | 1 | |
| 37 | LL40261-001A | CONN.GEAR ASS'Y | 2 | |
| 38 | LL40293-001A | SUP T.BAND ASSY | 1 | |
| 39 | LL40300-001A | TU T.BAND ASS'Y | 1 | |
| 40 | LL40345-001A | IDLER ARM ASS'Y | 1 | |
| 41 | LL30272-001A | EMERGENCY GEAR | 1 | |
| 42 | LL40354-001A | COMP.SPRING(E.G) | 2 | |
| 43 | LL30303-001A | MIC GUIDE | 1 | |
| 44 | LL40242-001A | GEAR 1 | 1 | |
| 45 | LL40243-001A | GEAR 2 | 1 | |
| 46 | LL40244-001A | WORM WHEEL 2 | 1 | |
| 47 | LL40245-001A | M.MOTOR ASS'Y | 1 | |
| 47A | LL10068-001A | MOTOR BRACKET | 1 | |
| 47B | LL40246-001A | MODE MOTOR SA | 1 | |
| 47C | WJM0310-001A | WIRE | 1 | |
| 47D | QYSPSPL2003Z | SCREW | 2 | |
| 47E | LL40248-001A | WORM ASSEMBLY | 1 | |
| 47F | LL40252-001A | E.GEAR(MODE) | 1 | |
| 48 | LL20087-001A | CA.GUIDE ASS'Y | 1 | |
| 49 | NAL0014-001A | FPC 1 ASSEMBLY | 1 | |
| 50 | CNB1001001V1 | I.C.(PH SENSOR) | 2 | |
| 51 | QNZ0586-001 | M.I.C.CONNECTOR | 1 | |
| 52 | LL10067-001B | IDLE COVER | 1 | |
| 53 | LL40356-001A | TORSION SPRING | 1 | |
| 54 | LL40316-001A | S.R.PLATE ASS'Y | 1 | |
| 55 | LL40319-001A | T.R.PLATE ASS'Y | 1 | |
| 56 | LL40368-001A | CTL.ARM ASS'Y | 1 | |
| 57 | LL20076-001A | SUB DECK ASS'Y | 1 | |
| 58 | LL40273-001A | TU L.ARM ASS'Y | 1 | |
| 59 | LL30273-001A | TU L.GEAR | 1 | |
| 60 | LL40277-001A | T.SPRING(T.L.G) | 1 | |
| 61 | LL40278-001A | SUP L.ARM ASS'Y | 1 | |
| 62 | LL30274-001A | SUP L.GEAR | 1 | |
| 63 | LL40282-001A | T.SPRING(S.L.G) | 1 | |
| 64 | QAR0248-001 | CAPSTAN MOTOR | 1 | |
| | | | | |
| | | | | |

| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| 65 | QSD0006-001 | DEW SENSOR | 1 | |
| 66 | LL30275-001A | SUP P.BASE ASSY | 1 | |
| 66A | LL30277-001A | SUP P.B.PLATE | 1 | |
| 66B | LL40284-001A | G.ROLLER ASS'Y | 1 | |
| 67 | LL30278-001A | TU P.BASE ASS'Y | 1 | |
| 67A | LL30280-001A | TU P.B.PLATE | 1 | |
| 67B | LL40284-001A | G.ROLLER ASS'Y | 1 | |
| 68 | LL40292-001A | E.G.R.ARM ASS'Y | 1 | |
| 69 | LL40324-001A | M.C.B.PIN ASS'Y | 1 | |
| 70 | LL30306-001A | LEAF PLATE | 1 | |
| 80 | YDV2103A | DRUM ASSEMBLY | 1 | |
| 90 | LL20064-001A | C.HOUSING ASS'Y | 1 | |
| 90A | WJM0311-001A | WIRE | 1 | |
| 91 | LL20063-001B | MAIN DECK ASS'Y | 1 | |
| | | | | |
| | | | | |
| | | | | |
| S1 | QYSPSPU1735N | SCREW | 4 | |
| S2 | QYSDSG2004N | SCREW | 1 | |
| S3 | QYSPSPU1430M | SCREW | 1 | |
| S4 | QYSPSPU1725M | SCREW | 20 | |
| S5 | QYSDSP2005Z | SCREW | 3 | |
| S6 | QYSDSP2003Z | SCREW | 2 | |
| S7 | YQ43893 | SCREW | 1 | |
| S8 | QYSDSP2012Z | SCREW | 1 | |
| | | | | |
| W1 | QYWDL163525 | SLIT WASHER | 1 | |
| W2 | QYWDM254725 | SLIT WASHER | 4 | |
| W5 | QYWDM082525 | SLIT WASHER | 4 | |
| W6 | QYWFM123025 | WASHER | 2 | |
| W7 | QYWDM082025 | SLIT WASHER | 1 | |
| W8 | QYWDM123025 | SLIT WASHER | 2 | |

# CABINET PARTS ASSEMBLY

Components identified with the mark ⚠ have the special characteristics for safety.
When replacing any of these components, use only the same type.




PRT-3

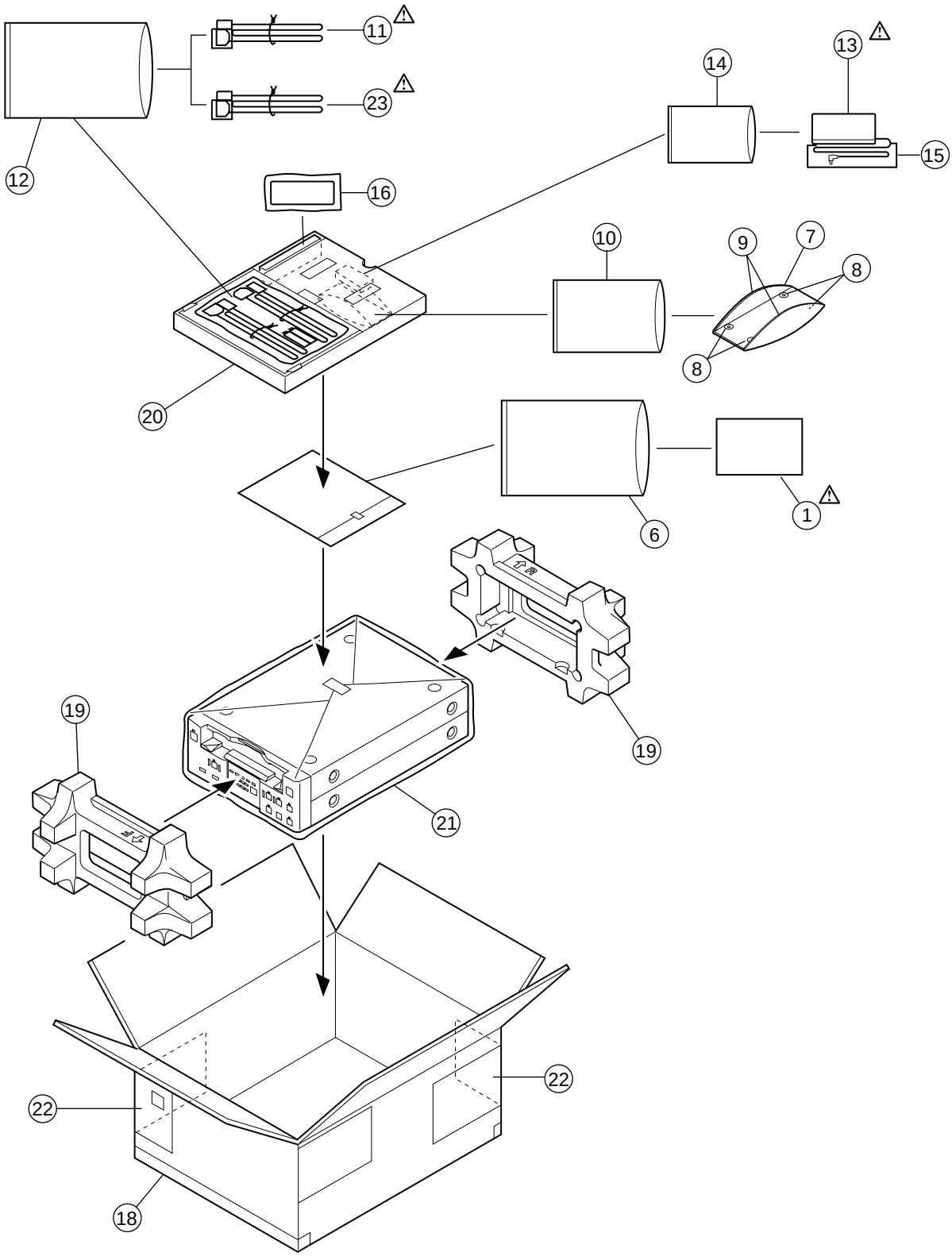
# CABINET PARTS ASSEMBLY

Components identified with the mark ⚠ have the special characterisitics for safety.
When replacing any of these components, use onlly the same type.

| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| 1 | LL30318-001A | CENTER BRACKET | 1 | |
| 2 | LL20089-001A | SIDE FRAME (L) | 1 | |
| 3 | LL20090-001A | SIDE FRAME (R) | 1 | |
| 4 | LL30319-001A | FRONT BRACKET | 1 | |
| 5 | LL40366-001A | BRACKET | 1 | |
| 6 | LL40363-001A | KNOB | 2 | |
| 7 | LL20092-003A | BOTTOM COVER | 1 | |
| 8 | LL20092-004A | TOP COVER | 1 | |
| 9 | LL40390-003A | CAUTION LABEL | 1 | |
| 10 | SS45331 | FOOT | 4 | |
| 11 | LL30338-011A | RATING LABEL | 1 | |
| 13 | PGS30680C | F.PANEL ASS'Y | 1 | |
| ⚠ 13A | LL10078-002A | FRONT PANEL | 1 | |
| 13B | LL20093-003A | KNOB(OPE) | 4 | |
| 13C | LL30343-001B | INDICATOR | 3 | |
| 13D | LL30344-002A | SHEET | 1 | |
| 14 | LL20091-003A | REAR COVER | 1 | |
| 15 | LL40364-001A | BRACKET | 1 | |
| 16 | SS45014-002 | WIRE CLAMP | 1 | |
| ⚠ 18 | SC45456-001 | CAUTION LABEL | 1 | |
| 20 | JN039-033601 | WIRE | 1 | |
| 21 | WJJ0377-001A | WIRE | 1 | |
| 22 | JN027-063211 | WIRE | 1 | |
| 23,24 | UQ105-4512AA | FFC WIRE | 2 | |
| 25 | UQ105-3013AA | FFC WIRE | 1 | |
| 26 | SCV2949-038 | GASKET | 1 | |
| 27 | LL30314-001D | BRACKET (L) | 1 | |
| 28 | LL30315-001C | BRACKET (R) | 1 | |
| 29 | LL30316-001A | SUB BRACKET(L) | 1 | |
| 30 | LL30317-001A | SUB BRACKET(R) | 1 | |
| 31 | PRD30030-36 | PAD | 2 | |
| 32 | LL40377-001A | SHIELD CASE | 1 | |
| 33 | UQ105-1305AA | FFC WIRE | 1 | |
| 34 | UQ105-2609AA | FFC WIRE | 1 | |
| 35 | UQ105-2004AA | FFC WIRE | 1 | |
| 36 | UQ105-1804AA | FFC WIRE | 1 | |
| 37 | UQ105-2004AA | FFC WIRE | 1 | |
| 38 | JJ027-081203 | WIRE | 1 | |
| 39 | IEEE1394ID | LABEL | 1 | |
| 41 | LL40398-001A | SHEET(1) | 6 | |
| 42 | LL40399-001A | SHEET(2) | 1 | |
| 43 | LL40400-001A | SHEET | 1 | |
| 44 | LL30353-001A | INSULATOR | 1 | |
| 45 | PRD30030-164 | PAD(SLIDE KNOB) | 1 | |
| 46 | PRD30030-147 | PAD(DV TERMINAL) | 1 | |
| 47 | LL30354-001A | GUARD SHEET | 1 | |
| 48 | LL40401-001A | LABEL(CAUTION) | 1 | |
| S1 | PRD44050-02 | SCREW(MIC/DVCONN) | 27 | |
| S2 | QYSDSTY3008X | SCREW | 8 | |
| S3 | PGZ01821 | SCREW | 2 | |
| S4 | QYSDSF3008Z | SCREW | 2 | |
| S5 | LL40389-001A | SCREW | 1 | |
| S8 | QYSPSP3003Z | SCREW | 4 | |
| S9 | PRD44099 | SCREW | 2 | |
| S10 | QYSDSP2004Z | SCREW | 4 | |
| S11 | QYSPSPM2003Z | SCREW | 2 | |
| S12 | QYSDSP2004Z | SCREW | 2 | |
| W1 | QYWLS275306N | WASHER | 1 | |

# PACKING PARTS ASSEMBLY

Components identified with the mark ⚠ have the special characteristics for safety.
When replacing any of these components, use only the same type.



# PACKING PARTS ASSEMBLY

Components identified with the mark ⚠ have the special characterisitics for safety.
When replacing any of these components, use onlly the same type.

| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| ⚠ 1 | LLT029-001A | OPERATING INSTRUCTIONS | 1 | FOR AG-DV2500P |
| ⚠ 1 | LLT030-001A | OPERATING INSTRUCTIONS | 1 | FOR AG-DV2500E |
| 6 | QPB02403404 | POLYETHYLENE BAG | 1 | |
| 7 | LL10073-001A | STAND | 1 | |
| 8 | SS45331 | FOOT | 4 | |
| 9 | LL40373-001A | PAD | 2 | |
| 10 | QPA01502005 | POLYETHYLENE BAG | 1 | |
| ⚠ 11 | PE260-200-K2 | POWER CODE | 1 | FOR AG-DV2500P |
| ⚠ 11 | PL240-200-K2 | POWER CODE | 1 | FOR AG-DV2500E |
| 12 | QPB02002804 | POLYETHYLENE BAG | 1 | |
| ⚠ 13 | QAL0481-001 | AC ADAPTER | 1 | |
| 14 | QPA01202005 | POLYETHYLENE BAG | 1 | |
| 15 | PUP40003-7 | CUSHION | 1 | |
| 16 | LL30345-001A | REMOCON UNIT | 1 | |
| 18 | LL30322-001A | PACKING CASE | 1 | |
| 19 | LL20094-001A | CUSHION | 2 | |
| 20 | LL20096-001A | ACC. CASE | 1 | |
| 21 | QPA02503505 | POLYETHYLENE BAG | 1 | |
| 22 | PRD3134-33 | PACKING LABEL | 1 | FOR AG-DV2500P |
| 22 | PRD3134-34 | PACKING LABEL | 1 | FOR AG-DV2500P |
| 22 | PRD3134-35 | PACKING LABEL | 1 | FOR AG-DV2500E |
| 22 | PRD3134-36 | PACKING LABEL | 1 | FOR AG-DV2500E |
| ⚠ 23 | PP160-200-K | POWER CODE | 1 | FOR AG-DV2500E |

| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|

# ELECTRICAL REPLACEMENT PARTS LIST

| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| | | | | |
| ■ | LK1173B0C | MAIN P.C.BOARD | 1 | (RTL) |
| | | | | |
| ■ | LK2129B0A1 | FRONT P.C.BOARD | 1 | (RTL) |
| | | | | |
| ■ | LK2129B0A2 | DVCONN P.C.BOARD | 1 | (RTL) |
| | | | | |
| ■ | LK2129B0A3 | MIC P.C.BOARD | 1 | (RTL) |
| | | | | |
| ■ | LK2125-D0B | DV/CPU P.C.BOARD | 1 | (RTL) |
| | | | | |
| ■ | LK2124B0B | MDA/DC P.C.BOARD | 1 | (RTL) |
| | | | | |
| ■ | LK2123A0A1 | MECHA P.C.BOARD | 1 | (RTL) |
| | | | | |
| ■ | LK2123B0A2 | MECHA CONN P.C.BOARD | 1 | (RTL) |
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| ■ | LK1173B0C | MAIN P.C.BOARD | 1 | (RTL) |
| | | | | |
| | | | | |
| BT2001 | QAB0020-001 | LI BATTERY | 1 | |
| | | | | |
| C1,C2 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 2 | |
| C3,C4 | NEH90JM-107X | E.CAPACITOR 6.3V 100U | 2 | |
| C5,C6 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 2 | |
| C7 | NEH90JM-107X | E.CAPACITOR 6.3V 100U | 1 | |
| C8 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 1 | |
| C9 | NEH90JM-107X | E.CAPACITOR 6.3V 100U | 1 | |
| C10 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 1 | |
| C12 | NDC31HJ-150X | C.CAPACITOR 50V 15P | 1 | |
| C13 | NDC31HJ-3R0X | C.CAPACITOR 50V 3P | 1 | |
| C14-16 | NCB11AK-106X | C.CAPACITOR 10V 10U | 3 | |
| C17 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C18 | NCB11AK-106X | C.CAPACITOR 10V 10U | 1 | |
| C19 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C20,21 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 2 | |
| C22 | NCB11AK-106X | C.CAPACITOR 10V 10U | 1 | |
| C23,24 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 2 | |
| C25 | NCB11AK-106X | C.CAPACITOR 10V 10U | 1 | |
| C26,27 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 2 | |
| C28 | NCB11AK-106X | C.CAPACITOR 10V 10U | 1 | |
| C29-34 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 6 | |
| C35 | NEH91CM-106X | E.CAPACITOR 16V 10U | 1 | |
| C36 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C37 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 1 | |
| C38-40 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 3 | |
| C41 | NDC31HJ-102X | C.CAPACITOR 50V 1000P | 1 | |
| C42,43 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 2 | |
| C44 | NBE21CM-105X | T.CAPACITOR 16V 1U | 1 | |
| C45 | NBE21CM-475X | T.CAPACITOR 16V 4.7U | 1 | |
| C46,47 | NCB31CK-473X | C.CAPACITOR 16V 0.047U | 2 | |
| C48 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 1 | |
| C49,50 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 2 | |
| C51 | NEH90JM-107X | E.CAPACITOR 6.3V 100U | 1 | |
| C52-54 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 3 | |
| C55 | NDC31HJ-102X | C.CAPACITOR 50V 1000U | 1 | |
| C56 | NBE21CM-105X | T.CAPACITOR 16V 1U | 1 | |
| C57 | NDC31HJ-102X | C.CAPACITOR 50V 1000U | 1 | |
| C58 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 1 | |
| C59 | NCB31CK-473X | C.CAPACITOR 16V 0.047U | 1 | |
| C60 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 1 | |
| C61 | NEH90JM-476X | E.CAPACITOR 6.3V 47U | 1 | |
| C62 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 1 | |
| C63 | NBE51AM-476X | T.CAPACITOR 10V 47U | 1 | |
| C64 | NDC31HJ-150X | C.CAPACITOR 50V 15P | 1 | |
| C65 | NDC31HJ-102X | C.CAPACITOR 50V 1000U | 1 | |
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| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| C66 | NDC31HJ-8R0X | C.CAPACITOR 50V 8P | 1 | |
| C67,68 | NDC31HJ-102X | C.CAPACITOR 50V 1000U | 2 | |
| C69 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C70 | NEH90JM-476X | E.CAPACITOR 6.3V 47U | 1 | |
| C71-73 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 3 | |
| C74,75 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 2 | |
| C76 | NEH90JM-107X | E.CAPACITOR 6.3V 100U | 1 | |
| C77,78 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 2 | |
| C79 | NEH90JM-107X | E.CAPACITOR 6.3V 100U | 1 | |
| C80 | NDC31HJ-271X | C.CAPACITOR 50V 270P | 1 | |
| C81 | NDC31HJ-121X | C.CAPACITOR 50V 120P | 1 | |
| C82 | NEH91CM-106X | E.CAPACITOR 16V 10U | 1 | |
| C83 | NDC31HJ-100X | C.CAPACITOR 50V 10P | 1 | |
| C84,85 | NDC31HJ-120X | C.CAPACITOR 50V 12P | 2 | |
| C86 | NDC31HJ-8R0X | C.CAPACITOR 50V 8P | 1 | |
| C88,89 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 2 | |
| C90 | NEH90JM-476X | E.CAPACITOR 6.3V 47U | 1 | |
| C91,92 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 2 | |
| C93 | NEH90JM-476X | E.CAPACITOR 6.3V 47U | 1 | |
| C94 | NDC31HJ-100X | C.CAPACITOR 50V 10P | 1 | |
| C95 | NDC31HJ-120X | C.CAPACITOR 50V 12P | 1 | |
| C96 | NDC31HJ-8R0X | C.CAPACITOR 50V 8P | 1 | |
| C97 | NDC31HJ-120X | C.CAPACITOR 50V 12P | 1 | |
| C98 | NDC31HJ-100X | C.CAPACITOR 50V 10P | 1 | |
| C99,00 | NDC31HJ-101X | C.CAPACITOR 50V 100P | 2 | |
| C101 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C102,03 | NDC31HJ-150X | C.CAPACITOR 50V 15P | 2 | |
| C104 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C105 | NEH90JM-476X | E.CAPACITOR 6.3V 47U | 1 | |
| C106 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C114 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C115 | NCB11AK-106X | C.CAPACITOR 10V 10U | 1 | |
| C117 | NCB11AK-106X | C.CAPACITOR 10V 10U | 1 | |
| C118,19 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 2 | |
| C120 | NCB11AK-106X | C.CAPACITOR 10V 10U | 1 | |
| C131,32 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 2 | |
| C133-35 | NCB11AK-106X | C.CAPACITOR 10V 10U | 3 | |
| C136 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C137 | NCB11AK-106X | C.CAPACITOR 10V 10U | 1 | |
| C138 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C152 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C156 | NDC31HJ-220X | C.CAPACITOR 50V 22P | 1 | |
| C170,71 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 2 | |
| C203,04 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 2 | |
| C205 | NEH90JM-476X | E.CAPACITOR 6.3V 47U | 1 | |
| C206 | NCB11AK-475X | C.CAPACITOR 10V 4.7U | 1 | |
| C207,08 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 2 | |
| C209 | NEH90JM-107X | E.CAPACITOR 6.3V 100U | 1 | |
| C210 | NEH90JM-476X | E.CAPACITOR 6.3V 47U | 1 | |
| C211 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 1 | |
| C212 | NEH90JM-476X | E.CAPACITOR 6.3V 47U | 1 | |
| C213 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 1 | |
| C214,15 | NEH91EM-475X | E.CAPACITOR 25V 4.7U | 2 | |
| C216 | NEH90JM-107X | E.CAPACITOR 6.3V 100U | 1 | |
| C217-19 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 3 | |
| C221 | NEH91EM-475X | E.CAPACITOR 25V 4.7U | 1 | |
| C222 | NBE21CM-475X | T.CAPACITOR 16V 4.7U | 1 | |
| C229 | NCB11AK-106X | C.CAPACITOR 10V 10U | 1 | |
| C233,34 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 2 | |
| C235 | NDC31HJ-101X | C.CAPACITOR 50V 100P | 1 | |
| C236 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 1 | |
| C237 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C238 | NDC31HJ-150X | C.CAPACITOR 50V 15P | 1 | |
| C239 | NDC31HJ-8R0X | C.CAPACITOR 50V 8P | 1 | |
| C240 | NDC31HJ-390X | C.CAPACITOR 50V 39P | 1 | |
| C241 | NDC31HJ-330X | C.CAPACITOR 50V 33P | 1 | |
| C242 | NCB11AK-106X | C.CAPACITOR 10V 10P | 1 | |
| C243 | NDC31HJ-330X | C.CAPACITOR 50V 33P | 1 | |
| C245 | NCB11AK-475X | C.CAPACITOR 10V 4.7P | 1 | |
| C248,49 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 2 | |
| C253,54 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 2 | |
| C255 | NEH90JM-476X | E.CAPACITOR 6.3V 47U | 1 | |
| C256,57 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 2 | |
| C258 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C259,60 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 2 | |
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| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| C261 | NEH90JM-476X | E.CAPACITOR 6.3V 47U | 1 | |
| C262,63 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 2 | |
| C264,65 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 2 | |
| C267 | NDC31HJ-150X | C.CAPACITOR 50V 15P | 1 | |
| C268 | NDC31HJ-8R0X | C.CAPACITOR 50V 8P | 1 | |
| C269 | NDC31HJ-390X | C.CAPACITOR 50V 39P | 1 | |
| C270 | NDC31HJ-330X | C.CAPACITOR 50V 33P | 1 | |
| C271,72 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 2 | |
| C275 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C277,78 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 2 | |
| C279 | NEH91CM-106X | E.CAPACITOR 16V 10U | 1 | |
| C280,81 | NEH90JM-107X | E.CAPACITOR 6.3V 100U | 2 | |
| C282,83 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 2 | |
| C284 | NDC31HJ-220X | C.CAPACITOR 50V 22P | 1 | |
| C288 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C291 | NDC31HJ-330X | C.CAPACITOR 50V 33P | 1 | |
| C292 | NDC31HJ-390X | C.CAPACITOR 50V 39P | 1 | |
| C293 | NDC31HJ-150X | C.CAPACITOR 50V 15P | 1 | |
| C294 | NDC31HJ-8R0X | C.CAPACITOR 50V 8P | 1 | |
| C295 | NEH90JM-476X | E.CAPACITOR 6.3V 47U | 1 | |
| C296,97 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 2 | |
| C298 | NEH90JM-476X | E.CAPACITOR 6.3V 47U | 1 | |
| C299,00 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 2 | |
| C301,02 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 2 | |
| C304-06 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 3 | |
| C307 | NDC31HJ-6R0X | C.CAPACITOR 50V 6P | 1 | |
| C308 | NEH90JM-476X | E.CAPACITOR 6.3V 47U | 1 | |
| C312 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C313 | NEH90JM-476X | E.CAPACITOR 6.3V 47U | 1 | |
| C314 | NDC31HJ-330X | C.CAPACITOR 50V 33P | 1 | |
| C315 | NDC31HJ-390X | C.CAPACITOR 50V 39P | 1 | |
| C316 | NDC31HJ-120X | C.CAPACITOR 50V 12P | 1 | |
| C317 | NDC31HJ-8R0X | C.CAPACITOR 50V 8P | 1 | |
| C319 | NEH90JM-107X | E.CAPACITOR 6.3V 100U | 1 | |
| C320,21 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 2 | |
| C322 | NEH90JM-476X | E.CAPACITOR 6.3V 47U | 1 | |
| C323-25 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 3 | |
| C326 | NEH90JM-107X | E.CAPACITOR 6.3V 100U | 1 | |
| C327 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 1 | |
| C328-31 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 4 | |
| C333-36 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 4 | |
| C338,39 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 2 | |
| C340 | NCB11AK-475X | C.CAPACITOR 10V 4.7U | 1 | |
| C341 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 1 | |
| C342 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C343 | NCB11AK-475X | C.CAPACITOR 10V 4.7U | 1 | |
| C344-48 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 5 | |
| C349,50 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 2 | |
| C351 | NDC31HJ-120X | C.CAPACITOR 50V 12P | 1 | |
| C352 | NDC31HJ-100X | C.CAPACITOR 50V 10P | 1 | |
| C353 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 1 | |
| C354-58 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 5 | |
| C359 | NDC31HJ-8R0X | C.CAPACITOR 50V 8P | 1 | |
| C369 | NEH90JM-476X | E.CAPACITOR 6.3V 47U | 1 | |
| C501 | NDC31HG-331X | C.CAPACITOR 50V 330P | 1 | |
| C502 | NDC31HJ-100X | C.CAPACITOR 50V 10P | 1 | |
| C503,04 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 2 | |
| C603 | NDC31HJ-271X | C.CAPACITOR 50V 270P | 1 | |
| C604 | NDC31HJ-121X | C.CAPACITOR 50V 120P | 1 | |
| C605 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C606,07 | NDC31HJ-102X | C.CAPACITOR 50V 1000P | 2 | |
| C609,10 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 2 | |
| C611 | NDC31HJ-220X | C.CAPACITOR 50V 22P | 1 | |
| C612-17 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 5 | |
| C618 | NDC31HJ-5R0X | C.CAPACITOR 50V 5P | 1 | |
| C619 | NDC31HJ-470X | C.CAPACITOR 50V 47P | 1 | |
| C621 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C1001 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C1002 | NEH91CM-226X | E.CAPACITOR 16V 22U | 1 | |
| C1003 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C1004 | NEH91CM-226X | E.CAPACITOR 16V 22U | 1 | |
| C1005 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C1006 | NEH91CM-226X | E.CAPACITOR 16V 22U | 1 | |
| C1007 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C1008 | NCB11AK-106X | C.CAPACITOR 10V 10U | 1 | |

| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| C1009,10 | NEH91CM-106X | E.CAPACITOR 16V 10U | 2 | |
| C1011 | NEH91CM-476X | E.CAPACITOR 16V 47U | 1 | |
| C1012 | NEH90JM-476X | E.CAPACITOR 6.3V 47U | 1 | |
| C1013-23 | NEH91CM-106X | E.CAPACITOR 16V 10U | 11 | |
| C1024 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C1025 | NEH91HM-105X | E.CAPACITOR 50V 1U | 1 | |
| C1026 | NEH91CM-106X | E.CAPACITOR 16V 10U | 1 | |
| C1027 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C1028 | NEH91CM-106X | E.CAPACITOR 16V 10U | 1 | |
| C1029 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C1030 | NCB31AK-224X | C.CAPACITOR 10V 0.22U | 1 | |
| C1031-36 | NEH91CM-106X | E.CAPACITOR 16V 10U | 6 | |
| C1037,38 | NCB21AK-105X | C.CAPACITOR 10V 1U | 2 | |
| C1039,40 | NCB11CK-475X | C.CAPACITOR 16V 4.7U | 2 | |
| C1041 | NCB21AK-105X | C.CAPACITOR 10V 1U | 1 | |
| C1042 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C1051-55 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 5 | |
| C1056-59 | NEH91CM-106X | E.CAPACITOR 16V 10U | 4 | |
| C1060 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C1061 | NEH91EM-336X | E.CAPACITOR 25V 33U | 1 | |
| C2001-03 | NCB31CK-473X | C.CAPACITOR 16V 0.047U | 3 | |
| C2004 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C2005,06 | NCB31CK-473X | C.CAPACITOR 16V 0.047U | 2 | |
| C2021 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 1 | |
| C2031-33 | NCB31CK-473X | C.CAPACITOR 16V 0.047U | 3 | |
| C2060 | NCB31CK-473X | C.CAPACITOR 16V 0.047U | 1 | |
| C2064 | NCS31HJ-220X | C.CAPACITOR 50V 22P | 1 | |
| C2065 | NCB31CK-473X | C.CAPACITOR 16V 0.047U | 1 | |
| C2081,82 | NCB31CK-473X | C.CAPACITOR 16V 0.047U | 2 | |
| C2091 | NCB31CK-473X | C.CAPACITOR 16V 0.047U | 1 | |
| C2092 | NCS31HJ-240X | C.CAPACITOR 50V 24P | 1 | |
| C2101-03 | NCB31CK-473X | C.CAPACITOR 16V 0.047U | 3 | |
| C2131 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C2132 | NEH91CM-106X | E.CAPACITOR 16V 10U | 1 | |
| C2133 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 1 | |
| C2134 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C2135 | NEH91CM-106X | E.CAPACITOR 16V 10U | 1 | |
| C2136,37 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 2 | |
| C2138 | NEH91CM-106X | E.CAPACITOR 16V 10U | 1 | |
| C2139 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C2501 | NCB31CK-473X | C.CAPACITOR 16V 0.147U | 1 | |
| C3001 | NEH91EM-336X | E.CAPACITOR 25V 33U | 1 | |
| C3002 | NEH91EM-106X | E.CAPACITOR 25V 10U | 1 | |
| C3003 | NEH91EM-336X | E.CAPACITOR 25V 33U | 1 | |
| C3004,05 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 2 | |
| C3006 | NBE51CM-336X | T.CAPACITOR 16V 33U | 1 | |
| C3007 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C3010 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 1 | |
| C3011 | NEH91EM-106X | E.CAPACITOR 25V 10U | 1 | |
| C3012 | NEH91EM-336X | E.CAPACITOR 25V 33U | 1 | |
| C3013,14 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 2 | |
| C3015 | NDC31HJ-221X | C.CAPACITOR 50V 220P | 1 | |
| C3016 | NCB11EK-105X | C.CAPACITOR 25V 1U | 1 | |
| C3017 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 1 | |
| C3018 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C3019 | NCB11EK-105X | C.CAPACITOR 25V 1U | 1 | |
| C3020 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 1 | |
| C3021,22 | NCB11EK-105X | C.CAPACITOR 25V 1U | 2 | |
| C3023 | NBE51CM-336X | T.CAPACITOR 16V 33U | 1 | |
| C3024 | NCS31EJ-102X | C.CAPACITOR 25V 1000P | 1 | |
| C3025 | NBE51CM-336X | T.CAPACITOR 16V 33U | 1 | |
| C3026 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C3027 | NCB11EK-105X | C.CAPACITOR 25V 1U | 1 | |
| C3028 | NBE51CM-336X | T.CAPACITOR 16V 33U | 1 | |
| C3029 | NCS31EJ-102X | C.CAPACITOR 25V 1000P | 1 | |
| C3030 | NBE51CM-336X | T.CAPACITOR 16V 33U | 1 | |
| C3031 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C3032 | NBE51CM-336X | T.CAPACITOR 16V 33U | 1 | |
| C3033 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C3034 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 1 | |
| C3035 | NDC31HJ-221X | C.CAPACITOR 50V 220P | 1 | |
| C3036 | NCB11EK-105X | C.CAPACITOR 25V 1U | 1 | |
| C3037 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 1 | |
| C3038 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C3039 | NCB11EK-105X | C.CAPACITOR 25V 1U | 1 | |

Components identified with the mark ⚠ have the special characterisitics for safety.
When replacing any of these components, use onlly the same type.

| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| C3040 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 1 | |
| C3041,42 | NCB11EK-105X | C.CAPACITOR 25V 1U | 2 | |
| C3043-45 | NCB11AK-106X | C.CAPACITOR 10V 10U | 3 | |
| C3046 | NCS31EJ-102X | C.CAPACITOR 25V 1000P | 1 | |
| C3047-49 | NCB11AK-106X | C.CAPACITOR 10V 10U | 3 | |
| C3050 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C3051 | NCB11EK-105X | C.CAPACITOR 25V 1U | 1 | |
| C3052-54 | NCB11AK-106X | C.CAPACITOR 10V 10U | 3 | |
| C3055 | NDC31HJ-681X | C.CAPACITOR 50V 680P | 1 | |
| C3056-58 | NCB11AK-106X | C.CAPACITOR 10V 10U | 3 | |
| C3059 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C4001-08 | NDC31HJ-221X | C.CAPACITOR 50V 220P | 8 | |
| C4009-12 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 4 | |
| | | | | |
| CL1 | PGZ01978 | MINI CLAMP | 1 | |
| | | | | |
| CN1001 | QGA1201C2-03 | CONNECTOR 3P | 1 | |
| CN3001 | QGA2501C1-04 | CONNECTOR 4P | 1 | |
| CN4001,02 | QGF0508F2-45 | CONNECTOR 45P | 2 | |
| CN4003 | QGF0508F2-30 | CONNECTOR 30P | 1 | |
| CN4004 | QGB0502L1-40 | CONNECTOR 40P | 1 | |
| CN4005 | QGA1201C2-02 | CONNECTOR 2P | 1 | |
| | | | | |
| D1 | DAN202U | DIODE | 1 | |
| D1001 | DAN202U | DIODE | 1 | |
| D2002,03 | MA741WK | DIODE | 2 | |
| D3001 | SB140L-6395 | DIODE | 1 | |
| D3006-08 | SFPB-72-W | DIODE | 3 | |
| D3009 | MA738 | DIODE | 1 | |
| D4001-12 | MA3091 | DIODE | 12 | |
| D4013-20 | MA3160-M | DIODE | 8 | |
| D4021-29 | MA3091 | DIODE | 9 | |
| D4031 | MA3091 | DIODE | 1 | |
| | | | | |
| ⚠ F3001 | MFZ011-3R15X | FUSE | 1 | |
| | | | | |
| FL1 | QQR0454-001 | FL FILTER | 1 | |
| | | | | |
| IC1 | TC4W53FU | IC | 1 | |
| IC2 | MM1565AF | IC | 1 | |
| IC3 | NJM79L05UA | IC | 1 | |
| IC4 | CXD2064Q | IC | 1 | |
| IC5 | M51271FP | IC | 1 | |
| IC6 | SN74AHCT04PW | IC | 1 | C0JBAB000541 |
| IC7 | MM1565AF | IC | 1 | |
| IC8 | NJM79L05UA | IC | 1 | |
| IC14 | UPC78L05T | IC | 1 | |
| IC201 | M62366GP | IC | 1 | |
| IC202 | AN3916LF | IC | 1 | |
| IC204 | PD6467GR-519 | IC | 1 | |
| IC206 | TC4W53FU | IC | 1 | |
| IC207 | MM1571JN | IC | 1 | |
| IC208 | JCP8029 | IC | 1 | |
| IC209 | AD817AR | IC | 1 | |
| IC211,12 | AD817AR | IC | 2 | |
| IC213,14 | SN74AHC574PW | IC | 2 | |
| IC215 | N74AHC1GU04K | IC | 1 | |
| IC217 | N74AHC245DGV | IC | 1 | |
| IC218 | AD817AR | IC | 1 | |
| IC501 | SN74LV221APW | IC | 1 | C0JBAM000100 |
| IC502 | SN74AHC74PW | IC | 1 | |
| IC601 | C74VHC221AFT | IC | 1 | |
| IC602 | TC7SET08F | IC | 1 | |
| IC603,04 | TC7W53FU | IC | 2 | |
| IC1001 | BA3314F | IC | 1 | |
| IC1002-04 | M5218AFP | IC | 3 | |
| IC1005 | AK4552VT | IC | 1 | |
| IC1006 | AK4363VF | IC | 1 | |
| IC1007,08 | M5218AFP | IC | 2 | |
| IC1009 | BA6138F | IC | 1 | |
| IC1011,12 | SN74HC161APW | IC | 2 | |
| IC1013 | SN74AHC00PW | IC | 1 | |
| IC1014 | SN74AHC04PW | IC | 1 | |
| IC1015 | SN74AHC74PW | IC | 1 | |
| IC1016 | SN74AHC1G00K | IC | 1 | |
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| | | | | |

| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| IC1017 | TC4W53FU | IC | 1 | |
| IC2002 | RS5C314 | IC | 1 | |
| IC2003 | M95320-WMN6 | IC | 1 | |
| IC2004 | RN5VD26AA | IC | 1 | |
| IC2005 | NJU7222U30 | IC | 1 | |
| IC2006,07 | N74LV165ADGV | IC | 2 | |
| IC2008 | M66311FP | IC | 1 | |
| IC2009,10 | BU4094BCFV | IC | 2 | |
| IC2011 | N74AHCT125PW | IC | 1 | |
| IC2012 | N74LV126ADGV | IC | 1 | |
| IC2013 | DS8922M | IC | 1 | |
| IC2015,16 | SN74AHC1G32K | IC | 2 | |
| IC2017 | TC7W04F | IC | 1 | |
| IC2051 | CD4053B | IC | 1 | |
| IC3001 | NJM78M05DL1A | IC | 1 | |
| IC3002,03 | BA9743AFV | IC | 2 | |
| | | | | |
| | | | | |
| J1 | QNZ0593-001 | JACK BOARD | 1 | |
| J2 | QNZ0475-001 | 9 PIN CONNECTOR | 1 | |
| J3 | QNS0037-001 | 3.5 JACK | 1 | |
| J4 | QNA0033-001 | DC JACK | 1 | |
| | | | | |
| K202 | NQR0200-005X | COIL | 1 | |
| K203 | PGZ01994-601 | FERRITE BEADS | 1 | |
| K204 | NQR0200-005X | COIL | 1 | |
| K1001 | NQR0200-005X | COIL | 1 | |
| K1002-04 | PGZ01994-601 | FERRITE BEADS | 3 | |
| K1005 | NQR0200-005X | COIL | 1 | |
| K1006 | PGZ01994-601 | FERRITE BEADS | 1 | |
| K1007 | NQR0200-005X | COIL | 1 | |
| K2001,02 | NQR0265-001X | FERAITE BEAD | 2 | |
| K4001-03 | NQR0200-005X | COIL | 3 | |
| K4005 | NQR0200-005X | COIL | 1 | |
| | | | | |
| L1-L8 | NQL114K-220X | COIL 22UH | 8 | |
| L9 | NQL024J-100X | COIL 10UH | 1 | |
| L10 | NQL024J-5R6X | COIL 5.6UH | 1 | |
| L11 | NQL024J-100X | COIL 10UH | 1 | |
| L12 | NQL024J-150X | COIL 15UH | 1 | |
| L13 | NQL024J-100X | COIL 10UH | 1 | |
| L14 | NQL024J-5R6X | COIL 5.6UH | 1 | |
| L15 | NQL024J-100X | COIL 10UH | 1 | |
| L16 | NQL024J-150X | COIL 15UH | 1 | |
| L17 | NQL024J-270X | COIL 27UH | 1 | |
| L18 | NQL024J-180X | COIL 18UH | 1 | |
| L19 | NQL114K-220X | COIL 22UH | 1 | |
| L201-03 | NQL114K-220X | COIL 22UH | 3 | |
| L205-09 | NQL114K-220X | COIL 22UH | 5 | |
| L210 | NQL024J-330X | COIL 33UH | 1 | |
| L211 | NQL024J-150X | COIL 15UH | 1 | |
| L212,13 | NQL114K-220X | COIL 22UH | 2 | |
| L214 | NQL024J-330X | COIL 33UH | 1 | |
| L215 | NQL024J-150X | COIL 15UH | 1 | |
| L216-18 | NQL114K-220X | COIL 22UH | 3 | |
| L220 | NQL024J-150X | COIL 15UH | 1 | |
| L221 | NQL024J-330X | COIL 33UH | 1 | |
| L222 | NQL024J-150X | COIL 15UH | 1 | |
| L223 | NQL024J-330X | COIL 33UH | 1 | |
| L224 | NQL114K-220X | COIL 22UH | 1 | |
| L601,02 | NQL024J-330X | COIL 33UH | 2 | |
| LC1001 | NQR0436-001X | LC FILTER | 1 | |
| L3001-07 | NQL25CM-330X | COIL 33UH | 7 | |
| L3008,09 | NQL25CM-470X | COIL 47UH | 2 | |
| L4001-04 | NQL024J-100X | COIL 10UH | 4 | |
| | | | | |
| Q1 | 2SA1774 | TRANSISTOR | 1 | |
| Q2,Q3 | 2SC4617 | TRANSISTOR | 2 | |
| Q4 | 2SA1774 | TRANSISTOR | 1 | |
| Q5-10 | 2SC4617 | TRANSISTOR | 6 | |
| Q11 | 2SA1774 | TRANSISTOR | 1 | |
| Q12 | 2SC4617 | TRANSISTOR | 1 | |
| Q13 | 2SA1774 | TRANSISTOR | 1 | |
| Q14-16 | 2SC4617 | TRANSISTOR | 3 | |
| Q17 | 2SA1774 | TRANSISTOR | 1 | |
| | | | | |
| | | | | |

| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| Q18 | 2SC4617 | TRANSISTOR | 1 | |
| Q19 | 2SA1774 | TRANSISTOR | 1 | |
| Q20,21 | 2SC4617 | TRANSISTOR | 2 | |
| Q22 | DTC124EUA | TRANSISTOR | 1 | |
| Q23-26 | 2SC4617 | TRANSISTOR | 4 | |
| Q201 | 2SC4617 | TRANSISTOR | 1 | |
| Q207,08 | 2SC4617 | TRANSISTOR | 2 | |
| Q209 | 2SA1774 | TRANSISTOR | 1 | |
| Q210-12 | 2SC4617 | TRANSISTOR | 3 | |
| Q213 | 2SA1774 | TRANSISTOR | 1 | |
| Q214,15 | 2SC4617 | TRANSISTOR | 2 | |
| Q216 | 2SA1774 | TRANSISTOR | 1 | |
| Q217 | 2SC4617 | TRANSISTOR | 1 | |
| Q218 | 2SA1774 | TRANSISTOR | 1 | |
| Q219 | 2SC4617 | TRANSISTOR | 1 | |
| Q222 | 2SA1774 | TRANSISTOR | 1 | |
| Q223 | 2SC4617 | TRANSISTOR | 1 | |
| Q225 | 2SC4617 | TRANSISTOR | 1 | |
| Q226 | 2SA1774 | TRANSISTOR | 1 | |
| Q229 | 2SA1774 | TRANSISTOR | 1 | |
| Q230 | 2SC4617 | TRANSISTOR | 1 | |
| Q601,02 | 2SC4617 | TRANSISTOR | 2 | |
| Q603,04 | 2SK665 | FET | 2 | |
| Q605,06 | 2SA1774 | TRANSISTOR | 2 | |
| Q1001,02 | DTC124EUA | TRANSISTOR | 2 | |
| Q1003 | DTA124EUA | TRANSISTOR | 1 | |
| Q1004,05 | DTC323TU | TRANSISTOR | 2 | |
| Q1006 | DTC124EUA | TRANSISTOR | 1 | |
| Q1007 | DTA124EUA | TRANSISTOR | 1 | |
| Q1008,09 | DTC323TU | TRANSISTOR | 2 | |
| Q1011 | DTC124EUA | TRANSISTOR | 1 | |
| Q1012 | DTA124EUA | TRANSISTOR | 1 | |
| Q1013,14 | DTC323TU | TRANSISTOR | 2 | |
| Q1015 | DTA124EUA | TRANSISTOR | 1 | |
| Q1016 | DTC124EUA | TRANSISTOR | 1 | |
| Q1017 | DTA124EUA | TRANSISTOR | 1 | |
| Q1018,19 | DTC323TU | TRANSISTOR | 2 | |
| Q2001 | DTC144EKA | TRANSISTOR | 1 | |
| Q2002 | DTA144EKA | TRANSISTOR | 1 | |
| Q2003 | DTC144EKA | TRANSISTOR | 1 | |
| Q2004 | DTC144EUA | TRANSISTOR | 1 | |
| Q2006 | DTC144EKA | TRANSISTOR | 1 | |
| Q3001 | DTC114EUA | TRANSISTOR | 1 | |
| Q3002 | 2SD1628/FG/ | TRANSISTOR | 1 | |
| Q3003,04 | DTA114EUA | TRANSISTOR | 2 | |
| Q3005 | DTC114EUA | TRANSISTOR | 1 | |
| Q3006 | 2SD1628/FG/ | TRANSISTOR | 1 | |
| Q3007,08 | 2SJ484WY | FET | 2 | |
| Q3009,10 | HAT1021R | TRANSISTOR | 2 | |
| Q3011 | 2SC2411K | TRANSISTOR | 1 | |
| Q3012 | SA1036K/PQR/ | TRANSISTOR | 1 | |
| Q3013 | 2SC2411K | TRANSISTOR | 1 | |
| Q3014 | SA1036K/PQR/ | TRANSISTOR | 1 | |
| Q3015 | 2SC2411K | TRANSISTOR | 1 | |
| Q3016 | SA1036K/PQR/ | TRANSISTOR | 1 | |
| Q3017 | 2SC2411K | TRANSISTOR | 1 | |
| Q3018 | SA1036K/PQR/ | TRANSISTOR | 1 | |
| | | | | |
| R1 | NRSA63D-331X | M.RESISTOR CH 1/16W 330 | 1 | |
| R2 | NRSA63D-101X | M.RESISTOR CH 1/16W 100 | 1 | |
| R3 | NRSA63D-472X | M.RESISTOR CH 1/16W 4.7K | 1 | |
| R4 | NRSA63D-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R5 | NRSA63D-122X | M.RESISTOR CH 1/16W 1.2K | 1 | |
| R6 | NRSA63D-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R7 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R8,R9 | NRSA63D-151X | M.RESISTOR CH 1/16W 150 | 2 | |
| R10 | NRSA63J-223X | M.RESISTOR CH 1/16W 22K | 1 | |
| R11 | NRSA63J-101X | M.RESISTOR CH 1/16W 100 | 1 | |
| R12 | NRSA63J-273X | M.RESISTOR CH 1/16W 27K | 1 | |
| R13 | NRSA63J-222X | M.RESISTOR CH 1/16W 2.2K | 1 | |
| R14 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R15 | NRSA63D-101X | M.RESISTOR CH 1/16W 100 | 1 | |
| R16 | NRSA63J-821X | M.RESISTOR CH 1/16W 820 | 1 | |
| R18 | NRSA63D-471X | M.RESISTOR CH 1/16W 470 | 1 | |
| R19 | NRSA63D-272X | M.RESISTOR CH 1/16W 2.7K | 1 | |
| | | | | |
| | | | | |

| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| R20 | NRSA63D-471X | M.RESISTOR CH 1/16W 470 | 1 | |
| R21 | NRSA63D-101X | M.RESISTOR CH 1/16W 100 | 1 | |
| R22 | NRSA63D-331X | M.RESISTOR CH 1/16W 330 | 1 | |
| R23 | NRSA63D-101X | M.RESISTOR CH 1/16W 100 | 1 | |
| R24 | NRSA63D-821X | M.RESISTOR CH 1/16W 820 | 1 | |
| R25 | NRSA63D-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R26 | NRSA63D-222X | M.RESISTOR CH 1/16W 2.2K | 1 | |
| R27 | NRSA63J-101X | M.RESISTOR CH 1/16W 100 | 1 | |
| R28 | NRSA63D-122X | M.RESISTOR CH 1/16W 1.2K | 1 | |
| R29 | NRSA63J-681X | M.RESISTOR CH 1/16W 680 | 1 | |
| R30-32 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 3 | |
| R33,34 | NRSA63D-332X | M.RESISTOR CH 1/16W 3.3K | 2 | |
| R35 | NRSA63D-182X | M.RESISTOR CH 1/16W 1.8K | 1 | |
| R36,37 | NRSA63J-221X | M.RESISTOR CH 1/16W 220 | 2 | |
| R38 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R40 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R41 | NRSA63D-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R42 | NRSA63D-392X | M.RESISTOR CH 1/16W 3.9K | 1 | |
| R43 | NRSA63J-681X | M.RESISTOR CH 1/16W 680 | 1 | |
| R44 | NRSA63J-393X | M.RESISTOR CH 1/16W 39K | 1 | |
| R45 | NRSA63J-221X | M.RESISTOR CH 1/16W 220 | 1 | |
| R46 | NRSA63J-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R47 | NRSA63J-223X | M.RESISTOR CH 1/16W 22K | 1 | |
| R48 | NRSA63J-101X | M.RESISTOR CH 1/16W 100 | 1 | |
| R49 | NRSA63J-561X | M.RESISTOR CH 1/16W 560 | 1 | |
| R50 | NRSA63D-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R51 | NRSA63J-561X | M.RESISTOR CH 1/16W 560 | 1 | |
| R52 | NRSA63J-152X | M.RESISTOR CH 1/16W 1.5K | 1 | |
| R53 | NRSA63J-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R54 | NRSA63J-222X | M.RESISTOR CH 1/16W 2.2K | 1 | |
| R56 | NRSA63D-101X | M.RESISTOR CH 1/16W 100 | 1 | |
| R57 | NRSA63J-222X | M.RESISTOR CH 1/16W 2.2K | 1 | |
| R58 | NRSA63D-331X | M.RESISTOR CH 1/16W 330 | 1 | |
| R60,61 | NRSA63J-222X | M.RESISTOR CH 1/16W 2.2K | 2 | |
| R62 | NRSA63D-331X | M.RESISTOR CH 1/16W 330 | 1 | |
| R63 | NRSA63J-222X | M.RESISTOR CH 1/16W 2.2K | 1 | |
| R64 | NRSA63D-681X | M.RESISTOR CH 1/16W 680 | 1 | |
| R65 | NRSA63D-331X | M.RESISTOR CH 1/16W 330 | 1 | |
| R66 | NRSA63D-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R67 | NRSA63D-101X | M.RESISTOR CH 1/16W 100 | 1 | |
| R68 | NRSA63D-182X | M.RESISTOR CH 1/16W 1.8K | 1 | |
| R69,70 | NRSA63J-102X | M.RESISTOR CH 1/16W 1K | 2 | |
| R71 | NRSA63D-101X | M.RESISTOR CH 1/16W 100 | 1 | |
| R72 | NRSA63J-391X | M.RESISTOR CH 1/16W 390 | 1 | |
| R73 | NRSA63D-151X | M.RESISTOR CH 1/16W 150 | 1 | |
| R74 | NRSA63J-272X | M.RESISTOR CH 1/16W 2.7K | 1 | |
| R75 | NRSA63D-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R76 | NRSA63J-562X | M.RESISTOR CH 1/16W 5.6K | 1 | |
| R77 | NRSA63D-471X | M.RESISTOR CH 1/16W 470 | 1 | |
| R78 | NRSA63D-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R79 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R80 | NRSA63J-152X | M.RESISTOR CH 1/16W 1.5K | 1 | |
| R81 | NRSA63J-823X | M.RESISTOR CH 1/16W 82K | 1 | |
| R82 | NRSA63D-332X | M.RESISTOR CH 1/16W 3.3K | 1 | |
| R83 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R84 | NRSA63J-125X | M.RESISTOR CH 1/16W 1.2M | 1 | |
| R85 | NRSA63D-474X | M.RESISTOR CH 1/16W 470K | 1 | |
| R86 | NRSA63J-183X | M.RESISTOR CH 1/16W 18K | 1 | |
| R87 | NRSA63J-123X | M.RESISTOR CH 1/16W 12K | 1 | |
| R88 | NRSA63J-153X | M.RESISTOR CH 1/16W 15K | 1 | |
| R89,90 | NRSA63J-223X | M.RESISTOR CH 1/16W 22K | 2 | |
| R91 | NRSA63J-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R92 | NRSA63J-152X | M.RESISTOR CH 1/16W 1.5K | 1 | |
| R93 | NRSA63J-510X | M.RESISTOR CH 1/16W 51 | 1 | |
| R94 | NRSA63J-331X | M.RESISTOR CH 1/16W 330 | 1 | |
| R95 | NRSA63J-510X | M.RESISTOR CH 1/16W 51 | 1 | |
| R96 | NRSA63J-331X | M.RESISTOR CH 1/16W 330 | 1 | |
| R97-99 | NRSA63J-333X | M.RESISTOR CH 1/16W 33K | 3 | |
| R100,01 | NRSA63J-153X | M.RESISTOR CH 1/16W 15K | 2 | |
| R102 | NRSA63J-222X | M.RESISTOR CH 1/16W 2.2K | 1 | |
| R103 | NRSA63J-333X | M.RESISTOR CH 1/16W 33K | 1 | |
| R104 | NRSA63J-391X | M.RESISTOR CH 1/16W 390 | 1 | |
| R105 | NRSA63J-101X | M.RESISTOR CH 1/16W 100 | 1 | |
| R106 | NRSA63J-681X | M.RESISTOR CH 1/16W 680 | 1 | |
| R107 | NRSA63J-331X | M.RESISTOR CH 1/16W 330 | 1 | |
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| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| R108 | NRSA63J-152X | M.RESISTOR CH 1/16W 1.5K | 1 | |
| R109 | NRSA63D-182X | M.RESISTOR CH 1/16W 1.8K | 1 | |
| R110 | NRSA63D-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R111 | NRSA63D-222X | M.RESISTOR CH 1/16W 2.2K | 1 | |
| R112 | NRSA63D-152X | M.RESISTOR CH 1/16W 1.5K | 1 | |
| R113-19 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 7 | |
| R180 | NRSA63J-473X | M.RESISTOR CH 1/16W 47K | 1 | |
| R203 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R204,05 | NRSA63D-151X | M.RESISTOR CH 1/16W 150 | 2 | |
| R206 | NRSA63J-223X | M.RESISTOR CH 1/16W 22K | 1 | |
| R207 | NRSA63J-273X | M.RESISTOR CH 1/16W 27K | 1 | |
| R208 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R209,10 | NRSA63J-222X | M.RESISTOR CH 1/16W 2.2K | 2 | |
| R211 | NRSA63J-223X | M.RESISTOR CH 1/16W 22K | 1 | |
| R212 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R213 | NRSA63J-684X | M.RESISTOR CH 1/16W 680K | 1 | |
| R214 | NRSA63J-222X | M.RESISTOR CH 1/16W 2.2K | 1 | |
| R215 | NRSA63J-123X | M.RESISTOR CH 1/16W 12K | 1 | |
| R233 | NRSA63J-222X | M.RESISTOR CH 1/16W 2.2K | 1 | |
| R234-36 | NRSA63J-332X | M.RESISTOR CH 1/16W 3.3K | 3 | |
| R239,40 | NRSA63J-101X | M.RESISTOR CH 1/16W 100 | 2 | |
| R241 | NRSA63D-181X | M.RESISTOR CH 1/16W 180 | 1 | |
| R242 | NRSA63D-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R243 | NRSA63D-101X | M.RESISTOR CH 1/16W 100 | 1 | |
| R244 | NRSA63J-152X | M.RESISTOR CH 1/16W 1.5K | 1 | |
| R246 | NRSA63D-751X | M.RESISTOR CH 1/16W 750 | 1 | |
| R247 | NRSA63D-222X | M.RESISTOR CH 1/16W 2.2K | 1 | |
| R248 | NRSA63J-223X | M.RESISTOR CH 1/16W 22K | 1 | |
| R249 | NRSA63J-273X | M.RESISTOR CH 1/16W 27K | 1 | |
| R250 | NRSA63J-101X | M.RESISTOR CH 1/16W 100 | 1 | |
| R251 | NRSA63D-821X | M.RESISTOR CH 1/16W 820 | 1 | |
| R252 | NRSA63D-331X | M.RESISTOR CH 1/16W 330 | 1 | |
| R253 | NRSA63D-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R254 | NRSA63D-101X | M.RESISTOR CH 1/16W 100 | 1 | |
| R255 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R256 | NRSA63D-471X | M.RESISTOR CH 1/16W 470 | 1 | |
| R257 | NRSA63J-101X | M.RESISTOR CH 1/16W 100 | 1 | |
| R258 | NRSA63D-122X | M.RESISTOR CH 1/16W 1.2K | 1 | |
| R259 | NRSA63J-684X | M.RESISTOR CH 1/16W 680K | 1 | |
| R260 | NRSA63D-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R263 | NRSA63J-333X | M.RESISTOR CH 1/16W 33K | 1 | |
| R264 | NRSA63J-683X | M.RESISTOR CH 1/16W 68K | 1 | |
| R265,66 | NRSA63D-151X | M.RESISTOR CH 1/16W 150 | 2 | |
| R267 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R268 | NRSA63J-273X | M.RESISTOR CH 1/16W 27K | 1 | |
| R269 | NRSA63J-223X | M.RESISTOR CH 1/16W 22K | 1 | |
| R270 | NRSA63J-222X | M.RESISTOR CH 1/16W 2.2K | 1 | |
| R271 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R272 | NRSA63J-222X | M.RESISTOR CH 1/16W 2.2K | 1 | |
| R273 | NRSA63J-101X | M.RESISTOR CH 1/16W 100 | 1 | |
| R274 | NRSA63J-223X | M.RESISTOR CH 1/16W 22K | 1 | |
| R275 | NRSA63J-273X | M.RESISTOR CH 1/16W 27K | 1 | |
| R276 | NRSA63D-101X | M.RESISTOR CH 1/16W 100 | 1 | |
| R277 | NRSA63J-152X | M.RESISTOR CH 1/16W 1.5K | 1 | |
| R279 | NRSA63D-751X | M.RESISTOR CH 1/16W 750 | 1 | |
| R280 | NRSA63J-222X | M.RESISTOR CH 1/16W 2.2K | 1 | |
| R281 | NRSA63J-223X | M.RESISTOR CH 1/16W 22K | 1 | |
| R282 | NRSA63J-393X | M.RESISTOR CH 1/16W 39K | 1 | |
| R283 | NRSA63D-561X | M.RESISTOR CH 1/16W 560 | 1 | |
| R284 | NRSA63D-101X | M.RESISTOR CH 1/16W 100 | 1 | |
| R285 | NRSA63D-331X | M.RESISTOR CH 1/16W 330 | 1 | |
| R286 | NRSA63D-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R287 | NRSA63D-101X | M.RESISTOR CH 1/16W 100 | 1 | |
| R288 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R289 | NRSA63D-101X | M.RESISTOR CH 1/16W 100 | 1 | |
| R290 | NRSA63D-471X | M.RESISTOR CH 1/16W 470 | 1 | |
| R291 | NRSA63J-681X | M.RESISTOR CH 1/16W 680 | 1 | |
| R292,93 | NRSA63D-151X | M.RESISTOR CH 1/16W 150 | 2 | |
| R294 | NRSA63D-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R295 | NRSA63D-152X | M.RESISTOR CH 1/16W 1.5K | 1 | |
| R296 | NRSA63D-561X | M.RESISTOR CH 1/16W 560 | 1 | |
| R297 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R298 | NRSA63J-104X | M.RESISTOR CH 1/16W 100K | 1 | |
| R299,00 | NRSA63J-222X | M.RESISTOR CH 1/16W 2.2K | 2 | |
| R302 | NRSA63J-751X | M.RESISTOR CH 1/16W 750 | 1 | |
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| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| R303 | NRSA63J-222X | M.RESISTOR CH 1/16W 2.2K | 1 | |
| R304 | NRSA63J-221X | M.RESISTOR CH 1/16W 220 | 1 | |
| R305,06 | NRSA63D-151X | M.RESISTOR CH 1/16W 150 | 2 | |
| R307,08 | NRSA63D-102X | M.RESISTOR CH 1/16W 1K | 2 | |
| R310,11 | NRSA63D-102X | M.RESISTOR CH 1/16W 1K | 2 | |
| R312,13 | NRSA63D-151X | M.RESISTOR CH 1/16W 150 | 2 | |
| R315 | NRSA63D-302X | M.RESISTOR CH 1/16W 3K | 1 | |
| R316 | NRSA63D-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R317 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R318 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R323,24 | NRSA63J-222X | M.RESISTOR CH 1/16W 2.2K | 2 | |
| R326 | NRSA63D-751X | M.RESISTOR CH 1/16W 750 | 1 | |
| R327 | NRSA63J-222X | M.RESISTOR CH 1/16W 2.2K | 1 | |
| R328 | NRSA63J-221X | M.RESISTOR CH 1/16W 220 | 1 | |
| R329 | NRSA63J-272X | M.RESISTOR CH 1/16W 2.7K | 1 | |
| R330 | NRSA63J-152X | M.RESISTOR CH 1/16W 1.5K | 1 | |
| R331 | NRSA63J-821X | M.RESISTOR CH 1/16W 820 | 1 | |
| R332 | NRSA63J-221X | M.RESISTOR CH 1/16W 220 | 1 | |
| R333 | NRSA63D-101X | M.RESISTOR CH 1/16W 100 | 1 | |
| R334-43 | NRSA63J-330X | M.RESISTOR CH 1/16W 33 | 10 | |
| R344,45 | NRSA63J-473X | M.RESISTOR CH 1/16W 47K | 2 | |
| R346,47 | NRSA63J-100X | M.RESISTOR CH 1/16W 10 | 2 | |
| R348 | NRSA63J-272X | M.RESISTOR CH 1/16W 2.7K | 1 | |
| R349 | NRSA63J-152X | M.RESISTOR CH 1/16W 1.5K | 1 | |
| R350 | NRSA63J-221X | M.RESISTOR CH 1/16W 220 | 1 | |
| R351 | NRSA63D-101X | M.RESISTOR CH 1/16W 100 | 1 | |
| R352 | NRSA63J-221X | M.RESISTOR CH 1/16W 220 | 1 | |
| R353 | NRSA63J-821X | M.RESISTOR CH 1/16W 820 | 1 | |
| R354-57 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 4 | |
| R359 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R360 | NRSA63D-472X | M.RESISTOR CH 1/16W 4.7K | 1 | |
| R362 | NRSA63J-472X | M.RESISTOR CH 1/16W 4.7K | 1 | |
| R364 | PGZ01994-601 | FERRITE BEADS | 1 | |
| R365 | NRSA63J-220X | M.RESISTOR CH 1/16W 22 | 1 | |
| R371 | NRSA63J-473X | M.RESISTOR CH 1/16W 47K | 1 | |
| R372 | NRSA63D-473X | M.RESISTOR CH 1/16W 47K | 1 | |
| R373 | NRSA63J-473X | M.RESISTOR CH 1/16W 47K | 1 | |
| R374,75 | NRSA63D-473X | M.RESISTOR CH 1/16W 47K | 2 | |
| R376,77 | NRSA63J-473X | M.RESISTOR CH 1/16W 47K | 2 | |
| R378 | NRSA63J-220X | M.RESISTOR CH 1/16W 22 | 1 | |
| R379-89 | NRSA63J-330X | M.RESISTOR CH 1/16W 33 | 11 | |
| R390 | PGZ01994-601 | FERRITE BEADS | 1 | |
| R391 | NRSA63J-220X | M.RESISTOR CH 1/16W 22 | 1 | |
| R392 | PGZ01994-601 | FERRITE BEADS | 1 | |
| R393 | NRSA63J-105X | M.RESISTOR CH 1/16W 1M | 1 | |
| R394 | NRSA63D-101X | M.RESISTOR CH 1/16W 100 | 1 | |
| R395 | NRSA63J-330X | M.RESISTOR CH 1/16W 33 | 1 | |
| R396 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R397 | NRSA63D-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R402 | NRSA63D-101X | M.RESISTOR CH 1/16W 100 | 1 | |
| R403 | NRSA63D-182X | M.RESISTOR CH 1/16W 1.8K | 1 | |
| R404,05 | NRSA63J-221X | M.RESISTOR CH 1/16W 220 | 2 | |
| R406 | NRSA63J-333X | M.RESISTOR CH 1/16W 33K | 1 | |
| R408 | NRSA63D-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R409 | NRSA63D-332X | M.RESISTOR CH 1/16W 3.3K | 1 | |
| R412 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R413 | NRSA63D-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R414 | NRSA63D-302X | M.RESISTOR CH 1/16W 3K | 1 | |
| R419 | NRSA63J-220X | M.RESISTOR CH 1/16W 22 | 1 | |
| R421 | NRSA63J-560X | M.RESISTOR CH 1/16W 56 | 1 | |
| R501 | NRSA63D-474X | M.RESISTOR CH 1/16W 470K | 1 | |
| R502 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R504 | NRSA63D-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R505 | NRSA63D-101X | M.RESISTOR CH 1/16W 100 | 1 | |
| R506 | NRSA63D-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R507 | NRSA63D-101X | M.RESISTOR CH 1/16W 100 | 1 | |
| R601,02 | NRSA63D-102X | M.RESISTOR CH 1/16W 1K | 2 | |
| R603 | NRSA63D-332X | M.RESISTOR CH 1/16W 3.3K | 1 | |
| R604 | NRSA63J-821X | M.RESISTOR CH 1/16W 820 | 1 | |
| R605 | NRSA63J-222X | M.RESISTOR CH 1/16W 2.2K | 1 | |
| R606 | NRSA63D-473X | M.RESISTOR CH 1/16W 47K | 1 | |
| R607 | NRSA63D-472X | M.RESISTOR CH 1/16W 4.7K | 1 | |
| R608 | NRSA63J-472X | M.RESISTOR CH 1/16W 4.7K | 1 | |
| R609 | NRSA63D-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R610 | NRSA63D-473X | M.RESISTOR CH 1/16W 47K | 1 | |
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| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| R611 | NRSA63D-332X | M.RESISTOR CH 1/16W 3.3K | 1 | |
| R612 | NRSA63J-104X | M.RESISTOR CH 1/16W 100K | 1 | |
| R613 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R614 | NRSA63D-122X | M.RESISTOR CH 1/16W 1.2K | 1 | |
| R615 | NRSA63D-392X | M.RESISTOR CH 1/16W 3.9K | 1 | |
| R616 | NRSA63D-182X | M.RESISTOR CH 1/16W 1.8K | 1 | |
| R617 | NRSA63D-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R618 | NRSA63D-821X | M.RESISTOR CH 1/16W 820 | 1 | |
| R619 | NRSA63D-681X | M.RESISTOR CH 1/16W 680 | 1 | |
| R620 | NRSA63D-201X | M.RESISTOR CH 1/16W 200 | 1 | |
| R621 | NRSA63D-162X | M.RESISTOR CH 1/16W 1.6K | 1 | |
| R625 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R1003 | NRSA63D-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R1004 | NRSA63J-271X | M.RESISTOR CH 1/16W 270 | 1 | |
| R1005,06 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 2 | |
| R1007 | NRSA63J-473X | M.RESISTOR CH 1/16W 47K | 1 | |
| R1009 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R1010 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R1011 | NRSA63D-473X | M.RESISTOR CH 1/16W 47K | 1 | |
| R1012 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R1013 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R1014 | NRSA63J-473X | M.RESISTOR CH 1/16W 47K | 1 | |
| R1016 | NRSA63D-822X | M.RESISTOR CH 1/16W 7.2K | 1 | |
| R1018 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R1019 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R1020 | NRSA63D-473X | M.RESISTOR CH 1/16W 47K | 1 | |
| R1021 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R1022 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R1023 | NRSA63D-822X | M.RESISTOR CH 1/16W 8.2K | 1 | |
| R1025-28 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 4 | |
| R1029-31 | NRSA63J-560X | M.RESISTOR CH 1/16W 56 | 3 | |
| R1032 | NRSA63J-101X | M.RESISTOR CH 1/16W 100 | 1 | |
| R1033 | NRSA63J-560X | M.RESISTOR CH 1/16W 56 | 1 | |
| R1034 | PGZ01994-601 | FERRITE BEADS | 1 | |
| R1035 | NRSA63J-512X | M.RESISTOR CH 1/16W 5.1K | 1 | |
| R1036 | NRSA63D-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R1037 | NRSA63D-473X | M.RESISTOR CH 1/16W 47K | 1 | |
| R1038 | NRSA63J-822X | M.RESISTOR CH 1/16W 8.2K | 1 | |
| R1039 | NRSA63D-822X | M.RESISTOR CH 1/16W 8.2K | 1 | |
| R1040 | NRSA63D-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R1041 | NRSA63J-682X | M.RESISTOR CH 1/16W 6.8K | 1 | |
| R1042 | NRSA63D-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R1043 | NRSA63D-473X | M.RESISTOR CH 1/16W 47K | 1 | |
| R1044 | NRSA63J-822X | M.RESISTOR CH 1/16W 8.2K | 1 | |
| R1045 | NRSA63D-822X | M.RESISTOR CH 1/16W 8.2K | 1 | |
| R1046 | NRSA63D-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R1047 | NRSA63J-682X | M.RESISTOR CH 1/16W 6.8K | 1 | |
| R1048,49 | NRSA63J-102X | M.RESISTOR CH 1/16W 1K | 2 | |
| R1050 | NRSA63J-272X | M.RESISTOR CH 1/16W 2.7K | 1 | |
| R1051 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R1052 | NRSA63J-272X | M.RESISTOR CH 1/16W 2.7K | 1 | |
| R1053 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R1054,55 | NRSA63J-154X | M.RESISTOR CH 1/16W 150K | 2 | |
| R1056 | NRSA63J-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R1057 | NRSA63J-472X | M.RESISTOR CH 1/16W 4.7K | 1 | |
| R1058 | NRSA63J-682X | M.RESISTOR CH 1/16W 6.8K | 1 | |
| R1059 | NRSA63J-560X | M.RESISTOR CH 1/16W 56 | 1 | |
| R1060,61 | NRSA63D-681X | M.RESISTOR CH 1/16W 680 | 2 | |
| R1062 | NRSA63J-472X | M.RESISTOR CH 1/16W 4.7K | 1 | |
| R1063 | NRSA63J-682X | M.RESISTOR CH 1/16W 6.8K | 1 | |
| R1064,65 | NRSA63J-560X | M.RESISTOR CH 1/16W 56 | 2 | |
| R1071,72 | NRSA63J-222X | M.RESISTOR CH 1/16W 2.2K | 2 | |
| R1073 | NRSA63D-472X | M.RESISTOR CH 1/16W 4.7K | 1 | |
| R1074 | NRSA63D-332X | M.RESISTOR CH 1/16W 3.3K | 1 | |
| R1075 | NRSA63D-472X | M.RESISTOR CH 1/16W 4.7K | 1 | |
| R1076 | NRSA63D-332X | M.RESISTOR CH 1/16W 3.3K | 1 | |
| R1077,78 | NRSA63D-122X | M.RESISTOR CH 1/16W 1.2K | 2 | |
| R1079 | NRSA63J-222X | M.RESISTOR CH 1/16W 2.2K | 1 | |
| R1080 | NRSA63D-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R2001-12 | NRSA63J-223X | M.RESISTOR CH 1/16W 22K | 12 | |
| R2015 | NRSA63J-223X | M.RESISTOR CH 1/16W 22K | 1 | |
| R2016 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R2017-19 | NRSA63J-223X | M.RESISTOR CH 1/16W 22K | 3 | |
| R2021,22 | NRSA63J-102X | M.RESISTOR CH 1/16W 1K | 2 | |
| R2023 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 1 | |
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| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| R2024 | NRSA63J-332X | M.RESISTOR CH 1/16W 3.3K | 1 | |
| R2025,26 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 2 | |
| R2031,32 | NRSA63J-221X | M.RESISTOR CH 1/16W 220 | 2 | |
| R2035 | NRSA63J-223X | M.RESISTOR CH 1/16W 22K | 1 | |
| R2036 | NRSA63J-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R2037,38 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 2 | |
| R2039 | NRSA63J-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R2040,41 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 2 | |
| R2042 | NRSA63J-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R2043 | NRSA63J-101X | M.RESISTOR CH 1/16W 100 | 1 | |
| R2044 | NRSA63J-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R2052-57 | NRSA63J-223X | M.RESISTOR CH 1/16W 22K | 5 | |
| R2059 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R2061 | NRSA63J-223X | M.RESISTOR CH 1/16W 22K | 1 | |
| R2062,63 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 2 | |
| R2064-67 | NRSA63J-223X | M.RESISTOR CH 1/16W 22K | 4 | |
| R2068 | NRSA63J-474X | M.RESISTOR CH 1/16W 470K | 1 | |
| R2070 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R2071 | NRSA63J-223X | M.RESISTOR CH 1/16W 22K | 1 | |
| R2072 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R2081,82 | NRSA63J-223X | M.RESISTOR CH 1/16W 22K | 2 | |
| R2083,84 | NRSA63J-222X | M.RESISTOR CH 1/16W 2.2K | 2 | |
| R2093 | NRSA63J-471X | M.RESISTOR CH 1/16W 470 | 1 | |
| R2094 | NRSA63D-471X | M.RESISTOR CH 1/16W 470 | 1 | |
| R2095 | NRSA63D-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R2102 | NRSA63J-223X | M.RESISTOR CH 1/16W 22K | 1 | |
| R2105 | NRSA63J-223X | M.RESISTOR CH 1/16W 22K | 1 | |
| R2106 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R2107-10 | NRSA63J-223X | M.RESISTOR CH 1/16W 22K | 4 | |
| R2112,13 | NRSA63J-101X | M.RESISTOR CH 1/16W 100 | 2 | |
| R2114 | NRSA63D-101X | M.RESISTOR CH 1/16W 100 | 1 | |
| R2115,16 | NRSA63J-101X | M.RESISTOR CH 1/16W 100 | 2 | |
| R2117,18 | NRSA63D-101X | M.RESISTOR CH 1/16W 100 | 2 | |
| R2119-22 | NRSA63J-101X | M.RESISTOR CH 1/16W 100 | 4 | |
| R2141-54 | NRSA63D-102X | M.RESISTOR CH 1/16W 1K | 14 | |
| R2203-06 | NRSA63J-223X | M.RESISTOR CH 1/16W 22K | 4 | |
| R2501,02 | NRSA63J-101X | M.RESISTOR CH 1/16W 100 | 2 | |
| R3001 | NRSA63D-153X | M.RESISTOR CH 1/16W 15K | 1 | |
| R3002 | NRSA63D-472X | M.RESISTOR CH 1/16W 4.7K | 1 | |
| R3003 | NRSA63D-473X | M.RESISTOR CH 1/16W 47K | 1 | |
| R3004 | NRSA63D-101X | M.RESISTOR CH 1/16W 100 | 1 | |
| R3005 | NRSA63J-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R3006 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R3007 | NRSA63D-473X | M.RESISTOR CH 1/16W 47K | 1 | |
| R3008 | NRSA63D-101X | M.RESISTOR CH 1/16W 100 | 1 | |
| R3009 | NRSA63D-123X | M.RESISTOR CH 1/16W 12K | 1 | |
| R3010 | NRSA63D-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R3011 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R3012 | NRSA63D-273X | M.RESISTOR CH 1/16W 27K | 1 | |
| R3013-16 | NRSA63D-103X | M.RESISTOR CH 1/16W 10K | 4 | |
| R3017 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R3018 | NRSA63D-123X | M.RESISTOR CH 1/16W 12K | 1 | |
| R3019 | NRSA63D-273X | M.RESISTOR CH 1/16W 27K | 1 | |
| R3020 | NRSA63D-471X | M.RESISTOR CH 1/16W 470 | 1 | |
| R3021 | NRSA63J-332X | M.RESISTOR CH 1/16W 3.3K | 1 | |
| R3022 | NRSA63D-182X | M.RESISTOR CH 1/16W 1.8K | 1 | |
| R3024 | NRSA63D-182X | M.RESISTOR CH 1/16W 1.8K | 1 | |
| R3025 | NRSA63D-122X | M.RESISTOR CH 1/16W 1.2K | 1 | |
| R3026 | NRSA63D-332X | M.RESISTOR CH 1/16W 3.3K | 1 | |
| R3027 | NRSA63J-471X | M.RESISTOR CH 1/16W 470 | 1 | |
| R3028 | NRSA63D-392X | M.RESISTOR CH 1/16W 3.9K | 1 | |
| R3030 | NRSA63D-392X | M.RESISTOR CH 1/16W 3.9K | 1 | |
| R3031 | NRSA63D-562X | M.RESISTOR CH 1/16W 5.6K | 1 | |
| R3032 | NRSA63D-153X | M.RESISTOR CH 1/16W 15K | 1 | |
| R3033 | NRSA63D-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R3034 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R3035 | NRSA63D-273X | M.RESISTOR CH 1/16W 27K | 1 | |
| R3036 | NRSA63D-332X | M.RESISTOR CH 1/16W 3.3K | 1 | |
| R3037,38 | NRSA63D-103X | M.RESISTOR CH 1/16W 10K | 2 | |
| R3039 | NRSA63D-153X | M.RESISTOR CH 1/16W 15K | 1 | |
| R3040 | NRSA63D-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R3041 | NRSA63J-822X | M.RESISTOR CH 1/16W 8.2K | 1 | |
| R3042 | NRSA63D-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R3043 | NRSA63D-273X | M.RESISTOR CH 1/16W 27K | 1 | |
| R3044 | NRSA63J-471X | M.RESISTOR CH 1/16W 470 | 1 | |
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| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| R3045 | NRSA63J-332X | M.RESISTOR CH 1/16W 3.3K | 1 | |
| R3046 | NRSA63D-472X | M.RESISTOR CH 1/16W 4.7K | 1 | |
| R3048 | NRSA63D-332X | M.RESISTOR CH 1/16W 3.3K | 1 | |
| R3049 | NRSA63D-152X | M.RESISTOR CH 1/16W 1.5K | 1 | |
| R3050 | NRSA63J-332X | M.RESISTOR CH 1/16W 3.3K | 1 | |
| R3051 | NRSA63D-471X | M.RESISTOR CH 1/16W 470 | 1 | |
| R3052 | NRSA63D-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R3054 | NRSA63D-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R3056 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R3059 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R3069-72 | NRSA63J-100X | M.RESISTOR CH 1/16W 10 | 4 | |
| R4001-04 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 4 | |
| R4011-14 | NRSA63J-560X | M.RESISTOR CH 1/16W 56 | 4 | |
| | | | | |
| S4001 | QSW0269-002 | SLIDE SWITCH | 1 | |
| | | | | |
| TH3003 | NAD0023-003X | THERMISTOR | 1 | |
| | | | | |
| TP1 | NNZ0009-001X | TEST POINT | 1 | |
| TP10 | NNZ0022-001X | TEST POINT | 1 | |
| TP201 | NNZ0022-001X | TEST POINT | 1 | |
| TP204 | NNZ0009-001X | TEST POINT | 1 | |
| | | | | |
| VC601,02 | EC2C01C | DIODE ARRAY | 2 | |
| | | | | |
| X1 | QAX0017-001 | CRYSTAL OSCILLATOR | 1 | |
| X2 | QAX0214-001 | CRYSTAL OSCILLATOR | 1 | |
| X201 | NAX0348-001X | CRYSTAL OSCILLATOR | 1 | |
| X2001 | NAX0536-001X | CRYSTAL OSCILLATOR | 1 | |
| X2003 | NAX0325-001X | CRYSTAL OSCILLATOR | 1 | |
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| ■ | LK2129B0A1 | FRONT P.C.BOARD | 1 | (RTL) |
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| | | | | |
| C1 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 1 | |
| | | | | |
| CN1 | QGF0508F1-45 | CONNECTOR | 1 | |
| | | | | |
| IC1 | SBX3071-52 | IC | 1 | |
| | | | | |
| LD1 | GL3CL8 | LED | 1 | |
| LD2 | SLR-342VR3F | LED | 1 | |
| LD3-D6 | SLR-342MG3F | LED | 4 | |
| LD7 | SLR-342VR3F | LED | 1 | |
| LD8-13 | SLR-342MG3F | LED | 6 | |
| LD14 | SLR-342VR3F | LED | 1 | |
| LD15-18 | SLR-342MG3F | LED | 4 | |
| | | | | |
| Q1,Q2 | DTC124EUA | TRANSISTOR | 2 | |
| Q4-Q8 | DTC124EUA | TRANSISTOR | 5 | |
| | | | | |
| R1-19 | NRSA63J-271X | M.RESISTOR CH 1/16W 270 | 19 | |
| R20,21 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 2 | |
| | | | | |
| S1,S2 | QSW0164-001 | TACT SWITCH | 2 | |
| S3,S4 | QSW0340-001 | SLIDE SWITCH | 2 | |
| S5-11 | QSW0164-001 | TACT SWITCH | 7 | |
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| ■ | LK2129B0A2 | DVCONN P.C.BOARD | 1 | (RTL) |
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| CN201 | GA1201F2-06X | CONNECTOR | 1 | |
| | | | | |
| J201 | QNZ0097-001 | JACK | 1 | |
| | | | | |
| K201,02 | NQR0200-005X | COIL | 2 | |
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| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| R201-04 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 4 | |
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| ■ | LK2129B0A3 | MIC P.C.BOARD | 1 | (RTL) |
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| C301,02 | NDC31HJ-221X | C.CAPACITOR 50V 220P | 2 | |
| | | | | |
| CN301 | QGA1201F2-03 | CONNECTOR 3P | 1 | |
| | | | | |
| D301,02 | MA3091 | DIODE | 2 | |
| | | | | |
| J301 | QNS0045-001 | 3.5 JACK | 1 | |
| | | | | |
| K302 | NQR0155-004X | FILTER | 1 | |
| | | | | |
| L301 | NQL024J-100X | COIL 10UH | 1 | |
| | | | | |
| R301 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
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| ■ | LK2125-D0B | DV/CPU P.C.BOARD | 1 | (RTL) |
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| C1-C6 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 6 | |
| C7 | NCB31CK-223X | C.CAPACITOR 16V 0.022U | 1 | |
| C8,C9 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 2 | |
| C10 | NBE21AM-106X | T.CAPACITOR 10V 10U | 1 | |
| C11,12 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 2 | |
| C13 | NBE21AM-106X | T.CAPACITOR 10V 10U | 1 | |
| C14,15 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 2 | |
| C16 | NBE41CM-106X | T.CAPACITOR 16V 10U | 1 | |
| C17,18 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 2 | |
| C19 | NBE41CM-106X | T.CAPACITOR 16V 10U | 1 | |
| C20-24 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 5 | |
| C25 | NDC31HJ-221X | C.CAPACITOR 50V 220P | 1 | |
| C26,27 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 2 | |
| C28 | NDC31HJ-102X | C.CAPACITOR 50V 1000P | 1 | |
| C29,30 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 2 | |
| C31 | NCB11CK-475X | C.CAPACITOR 16V 4.7U | 1 | |
| C32,33 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 2 | |
| C34 | NCB11CK-475X | C.CAPACITOR 16V 4.7U | 1 | |
| C35 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C101,02 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 2 | |
| C103 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 1 | |
| C104 | NDC31HJ-151X | C.CAPACITOR 50V 150P | 1 | |
| C106 | NCB30JK-105X | C.CAPACITOR 6.3V 1U | 1 | |
| C108 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C109 | NBE21AM-106X | T.CAPACITOR 10V 10U | 1 | |
| C110-21 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 12 | |
| C122,23 | NDC31HJ-120X | C.CAPACITOR 50V 12P | 2 | |
| C124,25 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 2 | |
| C126 | NDC31HJ-390X | C.CAPACITOR 50V 39P | 1 | |
| C127 | NDC31HJ-102X | C.CAPACITOR 50V 1000P | 1 | |
| C128,29 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 2 | |
| C130 | NCB11CK-105X | C.CAPACITOR 16V 1U | 1 | |
| C131 | NCB11CK-475X | C.CAPACITOR 16V 4.7U | 1 | |
| C133 | NDC31HJ-271X | C.CAPACITOR 50V 270P | 1 | |
| C135 | NCB31CK-473X | C.CAPACITOR 16V 0.047U | 1 | |
| C136 | NCB31HK-222X | C.CAPACITOR 50V 2200P | 1 | |
| C137,38 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 2 | |
| C139 | NCB31HK-102X | C.CAPACITOR 50V 1000P | 1 | |
| C140 | NDC31HJ-390X | C.CAPACITOR 50V 39P | 1 | |
| C141 | NCB31HK-102X | C.CAPACITOR 50V 1000P | 1 | |
| C142 | NDC31HJ-390X | C.CAPACITOR 50V 39P | 1 | |
| C143,44 | NDC31HJ-6R0X | C.CAPACITOR 50V 6P | 2 | |
| C145-52 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 8 | |
| C154 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 1 | |
| C155,56 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 2 | |
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| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| C301,02 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 2 | |
| C303 | NCF31AZ-105X | C.CAPACITOR 10V 1U | 1 | |
| C304 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C305 | NCF31AZ-105X | C.CAPACITOR 10V 1U | 1 | |
| C306,07 | NDC31HJ-150X | C.CAPACITOR 50V 15P | 2 | |
| C308 | NCF31AZ-105X | C.CAPACITOR 10V 1U | 1 | |
| C309,10 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 2 | |
| C311 | NCF31AZ-105X | C.CAPACITOR 10V 1U | 1 | |
| C312 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C313 | NDC31HJ-220X | C.CAPACITOR 50V 22P | 1 | |
| C314 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C401 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C402 | NBE41CM-106X | T.CAPACITOR 16V 10U | 1 | |
| C403 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C406 | NBE21AM-106X | T.CAPACITOR 10V 10U | 1 | |
| C407,08 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 2 | |
| C409 | NBE21AM-106X | T.CAPACITOR 10V 10U | 1 | |
| C410 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C411 | NCB11CK-105X | C.CAPACITOR 16V 1U | 1 | |
| C412 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 1 | |
| C413 | NBE21AM-106X | T.CAPACITOR 10V 10U | 1 | |
| C414 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C415 | NBE21AM-106X | T.CAPACITOR 10V 10U | 1 | |
| C416 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C419 | NBE21AM-106X | T.CAPACITOR 10V 10U | 1 | |
| C420,21 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 2 | |
| C422 | NBE21AM-106X | T.CAPACITOR 10V 10U | 1 | |
| C423 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C424 | NBE21AM-106X | T.CAPACITOR 10V 10U | 1 | |
| C425 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C426 | NBE21AM-106X | T.CAPACITOR 10V 10U | 1 | |
| C427 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C428 | NBE21AM-106X | T.CAPACITOR 10V 10U | 1 | |
| C429,30 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 2 | |
| C432,33 | NCB11CK-105X | C.CAPACITOR 16V 1U | 2 | |
| C434,35 | NBE21AM-106X | T.CAPACITOR 10V 10U | 2 | |
| C436,37 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 2 | |
| C438,39 | NCB31CK-223X | C.CAPACITOR 16V 0.022U | 2 | |
| C442-45 | NCB31CK-223X | C.CAPACITOR 16V 0.022U | 4 | |
| C446 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 1 | |
| C447,48 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 2 | |
| C449,50 | NCB31HK-102X | C.CAPACITOR 50V 1000P | 2 | |
| C451 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C452 | NBE21AM-106X | T.CAPACITOR 10V 10U | 1 | |
| C453 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| | | | | |
| CN101 | GA1201F2-06X | CONNECTOR 6P | 1 | |
| CN102 | GF0508C1-30W | CONNECTOR 30P | 1 | |
| CN103 | GF0508C1-45W | CONNECTOR 45P | 1 | |
| CN104 | GF0508C1-13W | CONNECTOR 13P | 1 | |
| CN105 | GF0508C1-26W | CONNECTOR 26P | 1 | |
| CN106 | GF0508C1-20W | CONNECTOR 20P | 1 | |
| CN107 | GF0503F4-08X | CONNECTOR 8P | 1 | |
| CN108 | GA1501F2-08W | CONNECTOR 8P | 1 | |
| | | | | |
| D101-03 | EC2C01C | DIODE ARRAY | 3 | |
| D401-03 | DAN202U | DIODE | 3 | |
| | | | | |
| IC1 | JCY0132 | IC | 1 | |
| IC2,C3 | TC7SH00FU | IC | 2 | |
| IC101 | TLC2940IPW | IC | 1 | |
| IC102 | JCY0136 | IC | 1 | |
| IC103 | JCY0152 | IC | 1 | |
| IC104,05 | SN74AHC574PW | IC | 2 | |
| IC106 | N74AHC245DGV | IC | 1 | |
| IC107 | TC7W53FU | IC | 1 | |
| IC301 | M95320-WMN6 | IC | 1 | |
| IC303 | RN5VD26AA | IC | 1 | |
| IC402 | MM1571JN | IC | 1 | |
| IC404 | TC7W14FU | IC | 1 | |
| IC405 | M62366GP | IC | 1 | |
| | | | | |
| | | | | |
| K1 | NQR0265-001X | FERAITE BEAD | 1 | |
| K101 | NQR0265-001X | FERAITE BEAD | 1 | |
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| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| K103 | NQR0265-001X | FERAITE BEAD | 1 | |
| K401,02 | NQR0265-001X | FERAITE BEAD | 2 | |
| | | | | |
| L1-L4 | NQL044K-100X | COIL 10UH | 4 | |
| L101 | NQL024J-2R2X | COIL 2.2UH | 1 | |
| L102 | NQR0276-001X | COIL | 1 | |
| L103 | NQL024J-120X | COIL 12UH | 1 | |
| L104 | NQL024J-100X | COIL 10UH | 1 | |
| L105 | NQL044K-100X | COIL 10UH | 1 | |
| L402-06 | NQL044K-100X | COIL 10UH | 5 | |
| L408 | NQL044K-100X | COIL 10UH | 1 | |
| | | | | |
| LC401-05 | NQR0436-001X | LC FILTER | 5 | |
| | | | | |
| Q102 | DTC143EUA | TRANSISTOR | 1 | |
| Q402-05 | DTA114EUA | TRANSISTOR | 4 | |
| Q406-09 | UMC3N-W | TRANSISTOR | 4 | |
| Q410 | DTA114EUA | TRANSISTOR | 1 | |
| Q411,12 | 2SA1577 | TRANSISTOR | 2 | |
| | | | | |
| R3 | NRSA63J-471X | M.RESISTOR CH 1/16W 470 | 1 | |
| R4 | NRSA63J-104X | M.RESISTOR CH 1/16W 100K | 1 | |
| R5 | NRSA63J-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R6-R9 | NRSA63J-241X | M.RESISTOR CH 1/16W 240 | 4 | |
| R10 | NRSA63J-223X | M.RESISTOR CH 1/16W 22K | 1 | |
| R11 | NRSA63J-472X | M.RESISTOR CH 1/16W 4.7K | 1 | |
| R12 | NRSA63J-223X | M.RESISTOR CH 1/16W 22K | 1 | |
| R13 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R14 | NRSA63D-560X | M.RESISTOR CH 1/16W 56 | 1 | |
| R101 | NRSA63J-222X | M.RESISTOR CH 1/16W 2.2K | 1 | |
| R104 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R105,06 | NRSA63J-102X | M.RESISTOR CH 1/16W 1K | 2 | |
| R107 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R108 | NRSA63J-221X | M.RESISTOR CH 1/16W 220 | 1 | |
| R109 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R111 | NRSA63J-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R112 | NRSA63J-151X | M.RESISTOR CH 1/16W 150 | 1 | |
| R113 | NRSA63J-302X | M.RESISTOR CH 1/16W 3K | 1 | |
| R114 | NRSA63J-151X | M.RESISTOR CH 1/16W 150 | 1 | |
| R115 | NRSA63J-302X | M.RESISTOR CH 1/16W 3K | 1 | |
| R116,17 | NRSA63J-220X | M.RESISTOR CH 1/16W 22 | 2 | |
| R118 | NRSA63J-105X | M.RESISTOR CH 1/16W 1M | 1 | |
| R119 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R120 | NRSA63J-562X | M.RESISTOR CH 1/16W 5.6K | 1 | |
| R121 | NRSA63J-222X | M.RESISTOR CH 1/16W 2.2K | 1 | |
| R122,23 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 2 | |
| R124 | NRSA63J-224X | M.RESISTOR CH 1/16W 220K | 1 | |
| R126 | NRSA63J-222X | M.RESISTOR CH 1/16W 2.2K | 1 | |
| R127 | NRSA63J-242X | M.RESISTOR CH 1/16W 2.4K | 1 | |
| R128,29 | NRSA63J-392X | M.RESISTOR CH 1/16W 3.9K | 2 | |
| R130-33 | NRSA63D-560X | M.RESISTOR CH 1/16W 56 | 4 | |
| R134 | NRSA63D-512X | M.RESISTOR CH 1/16W 5.1K | 1 | |
| R139 | NRSA63J-330X | M.RESISTOR CH 1/16W 33 | 1 | |
| R141 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R142 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R147 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R148 | NRSA63J-681X | M.RESISTOR CH 1/16W 680 | 1 | |
| R149 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R150 | NRSA63J-222X | M.RESISTOR CH 1/16W 2.2K | 1 | |
| R151,52 | NRSA63J-224X | M.RESISTOR CH 1/16W 220K | 2 | |
| R153 | NRSA63J-105X | M.RESISTOR CH 1/16W 1M | 1 | |
| R154 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R155-60 | NRSA63J-560X | M.RESISTOR CH 1/16W 56 | 6 | |
| R164-68 | NRSA63J-560X | M.RESISTOR CH 1/16W 56 | 5 | |
| R169,70 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 2 | |
| R171-74 | NRSA63J-330X | M.RESISTOR CH 1/16W 33 | 4 | |
| R176 | NRSA63J-105X | M.RESISTOR CH 1/16W 1M | 1 | |
| R178 | NRSA63J-182X | M.RESISTOR CH 1/16W 75 | 1 | |
| R179 | NRSA63J-561X | M.RESISTOR CH 1/16W 560 | 1 | |
| R181 | NRSA63J-330X | M.RESISTOR CH 1/16W 33 | 1 | |
| R183 | NRSA63J-330X | M.RESISTOR CH 1/16W 33 | 1 | |
| R301-19 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 19 | |
| R320 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R321-28 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 8 | |
| R329 | NRSA63J-474X | M.RESISTOR CH 1/16W 470K | 1 | |
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| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| R330-34 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 5 | |
| R335 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R336-52 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 17 | |
| R357 | NRSA63J-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R358 | NRSA63J-472X | M.RESISTOR CH 1/16W 4.7K | 1 | |
| R401,02 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 2 | |
| R405 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R406-10 | NRSA63J-101X | M.RESISTOR CH 1/16W 100 | 5 | |
| R411 | NRSA63J-332X | M.RESISTOR CH 1/16W 3.3K | 1 | |
| R412,13 | NRSA63J-101X | M.RESISTOR CH 1/16W 100 | 2 | |
| R415-17 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 3 | |
| R418-24 | NRSA63J-101X | M.RESISTOR CH 1/16W 100 | 7 | |
| R425-28 | NRSA63J-332X | M.RESISTOR CH 1/16W 3.3K | 4 | |
| R429-31 | NRSA63J-101X | M.RESISTOR CH 1/16W 100 | 3 | |
| R432 | NRSA63J-332X | M.RESISTOR CH 1/16W 3.3K | 1 | |
| R433-52 | NRSA63J-101X | M.RESISTOR CH 1/16W 100 | 20 | |
| R453 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R455 | NRSA63J-104X | M.RESISTOR CH 1/16W 100K | 1 | |
| R456 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R457 | NRSA63J-104X | M.RESISTOR CH 1/16W 100K | 1 | |
| R458 | NRSA63J-101X | M.RESISTOR CH 1/16W 100 | 1 | |
| R459,60 | NRSA63J-102X | M.RESISTOR CH 1/16W 1K | 2 | |
| R461 | NRSA63J-104X | M.RESISTOR CH 1/16W 100K | 1 | |
| R462 | NRSA63J-125X | M.RESISTOR CH 1/16W 1.2M | 1 | |
| R463 | NRSA63J-824X | M.RESISTOR CH 1/16W 820K | 1 | |
| R464 | NRSA63J-275X | M.RESISTOR CH 1/16W 2.7M | 1 | |
| R465 | NRSA63J-824X | M.RESISTOR CH 1/16W 820K | 1 | |
| R466 | NRSA63J-275X | M.RESISTOR CH 1/16W 2.7M | 1 | |
| R467 | NRSA63J-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R468 | NRSA63J-125X | M.RESISTOR CH 1/16W 1.2M | 1 | |
| R469 | NRSA63J-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R470-73 | NRSA63J-101X | M.RESISTOR CH 1/16W 100 | 4 | |
| R474-80 | NRSA63J-104X | M.RESISTOR CH 1/16W 100K | 7 | |
| R481,82 | NRSA63J-473X | M.RESISTOR CH 1/16W 47K | 2 | |
| R483-85 | NRSA63J-332X | M.RESISTOR CH 1/16W 3.3K | 3 | |
| R486-90 | NRSA63J-101X | M.RESISTOR CH 1/16W 100 | 5 | |
| R491 | NRSA63J-330X | M.RESISTOR CH 1/16W 33 | 1 | |
| R492 | NRSA63J-101X | M.RESISTOR CH 1/16W 100 | 1 | |
| R493 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R494 | NRSA63J-101X | M.RESISTOR CH 1/16W 100 | 1 | |
| R495 | NRSA63D-273X | M.RESISTOR CH 1/16W 27K | 1 | |
| R501 | NRSA63J-333X | M.RESISTOR CH 1/16W 33K | 1 | |
| | | | | |
| RA101 | NRZ0015-102X | COMBI.R-R 1K | 1 | |
| RA102,03 | NRZ0015-103X | M.RESISTOR 10K | 2 | |
| RA104-07 | NRZ0015-330X | COMBI.R-R 33 | 4 | |
| RA401-03 | NRZ0015-101X | COMBI.R-R 100 | 3 | |
| | | | | |
| TP1 | NNZ0071-001X | TEST POINT | 1 | |
| | | | | |
| X101 | NAX0141-001X | CRYSTAL OSCILLATOR | 1 | |
| X102 | NAX0206-001X | CRYSTAL OSCILLATOR | 1 | |
| X301 | NAX0348-001X | CRYSTAL OSCILLATOR | 1 | |
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| ■ | LK2124B0B | MDA/DC P.C.BOARD | 1 | (RTL) |
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| | | | | |
| C104 | NBE21AM-106X | T.CAPACITOR 10V 10U | 1 | |
| C105 | NEH91CM-106X | E.CAPACITOR 16V 10U | 1 | |
| C106 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C107 | NCB31HK-152X | C.CAPACITOR 50V 1500P | 1 | |
| C108,09 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 2 | |
| C120-25 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 6 | |
| C126 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C127-29 | NCB31AK-224X | C.CAPACITOR 10V 0.22U | 3 | |
| C130 | NEH91CM-106X | E.CAPACITOR 16V 10U | 1 | |
| C131-33 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 3 | |
| C134-36 | NCB31CK-223X | C.CAPACITOR 16V 0.022U | 3 | |
| C137,38 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 2 | |
| C139 | NEH90JM-226X | E.CAPACITOR 6.3V 0.22U | 1 | |
| C140 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
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| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| C142 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C143 | NCB31CK-223X | C.CAPACITOR 16V 0.022U | 1 | |
| C144 | NCB31CK-473X | C.CAPACITOR 16V 0.047U | 1 | |
| C145 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C147 | NCB11CK-105X | C.CAPACITOR 16V 1U | 1 | |
| C148 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C149 | NEH90JM-226X | E.CAPACITOR 6.3V 22U | 1 | |
| C156 | NCB11CK-105X | C.CAPACITOR 16V 1U | 1 | |
| C157 | NDC31HJ-102X | C.CAPACITOR 50V 1000P | 1 | |
| C158,59 | NCB31CK-223X | C.CAPACITOR 16V 0.022U | 2 | |
| C160 | NDC31HJ-471X | C.CAPACITOR 50V 470P | 1 | |
| C201 | NCB31CK-223X | C.CAPACITOR 16V 0.022U | 1 | |
| C202 | NEH91CM-106X | E.CAPACITOR 16V 10U | 1 | |
| C203 | NCB31CK-223X | C.CAPACITOR 16V 0.022U | 1 | |
| C204 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C205 | NCB31HK-153X | C.CAPACITOR 50V 0.015U | 1 | |
| C206 | NCB31CK-273X | C.CAPACITOR 16V 0.027U | 1 | |
| C207 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C209 | NCF31AZ-105X | C.CAPACITOR 10V 1U | 1 | |
| C210 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C211-13 | NCB31CK-223X | C.CAPACITOR 16V 0.022U | 3 | |
| C214-16 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 3 | |
| C217 | NCF31AZ-105X | C.CAPACITOR 10V 1U | 1 | |
| C218,19 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 2 | |
| C220 | NCF31AZ-105X | C.CAPACITOR 10V 1U | 1 | |
| C221 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 1 | |
| C301 | NEH91VM-106X | E.CAPACITOR 35V 10U | 1 | |
| C303 | NDC31HJ-221X | C.CAPACITOR 50V 0.1U | 1 | |
| C304 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C305 | NCB11CK-475X | C.CAPACITOR 16V 4.7U | 1 | |
| C306,07 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 2 | |
| C308 | NCB11CK-105X | C.CAPACITOR 16V 1U | 1 | |
| C309 | NBE21DM-475X | T.CAPACITOR 20V 4.7U | 1 | |
| C311 | NCB11CK-105X | C.CAPACITOR 16V 1U | 1 | |
| C312 | NBE21DM-475X | T.CAPACITOR 20V 4.7U | 1 | |
| C313 | NDC31HJ-102X | C.CAPACITOR 50V 1000P | 1 | |
| C314 | NDC31HJ-221X | C.CAPACITOR 50V 220P | 1 | |
| C315 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 1 | |
| C316 | NCB11CK-475X | C.CAPACITOR 16V 4.7U | 1 | |
| C317,18 | NCB31CK-104X | C.CAPACITOR 16V 0.1U | 2 | |
| C319 | NCB11CK-105X | C.CAPACITOR 16V 1U | 1 | |
| C320 | NCB11CK-475X | C.CAPACITOR 16V 4.7U | 1 | |
| C321 | NCB11CK-105X | C.CAPACITOR 16V 1U | 1 | |
| C322 | NCB11CK-475X | C.CAPACITOR 16V 4.7U | 1 | |
| C323 | NDC31HJ-102X | C.CAPACITOR 50V 1000P | 1 | |
| C401 | NDC31HJ-221X | C.CAPACITOR 50V 220P | 1 | |
| C402 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 1 | |
| C403 | NCB11CK-475X | C.CAPACITOR 16V 4.7U | 1 | |
| C404 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 1 | |
| C405 | NCF31AZ-105X | C.CAPACITOR 10V 1U | 1 | |
| C407 | NCF11CZ-225X | C.CAPACITOR 16V 2.2U | 1 | |
| C408 | NCF31AZ-105X | C.CAPACITOR 10V 1U | 1 | |
| C409 | NCB11CK-105X | C.CAPACITOR 16V 1U | 1 | |
| C410-12 | NCB10JK-106X | C.CAPACITOR 6.3V 10U | 3 | |
| C413 | NCB31AK-224X | C.CAPACITOR 10V 0.22U | 1 | |
| C414,15 | NCB10JK-106X | C.CAPACITOR 6.3V 10U | 2 | |
| C416 | NCB11CK-105X | C.CAPACITOR 16V 1U | 1 | |
| C417-19 | NBE21AM-106X | T.CAPACITOR 10V 10U | 3 | |
| C420 | NCB31AK-224X | C.CAPACITOR 10V 0.22U | 1 | |
| C421 | NCB10JK-106X | C.CAPACITOR 6.3V 10U | 1 | |
| C422 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 1 | |
| C423,24 | NBE21AM-106X | T.CAPACITOR 10V 10U | 2 | |
| C425 | NCB31HK-103X | C.CAPACITOR 50V 0.01U | 1 | |
| C426,27 | NBE21AM-106X | T.CAPACITOR 10V 10U | 2 | |
| | | | | |
| CN105 | GF0508C1-26W | CONNECTOR 26P | 1 | |
| CN108 | GA1501C2-08W | CONNECTOR 8P | 1 | |
| CN111 | SS30662-004 | CONNECTOR 4P | 1 | |
| CN112 | GF0508C1-12W | CONNECTOR 12P | 1 | |
| CN113 | GF0508C1-18W | CONNECTOR 18P | 1 | |
| CN114 | GA1201C2-02X | CONNECTOR 2P | 1 | |
| CN116 | GF0508C1-20W | CONNECTOR 20P | 1 | |
| CN117 | GA1501C2-02W | CONNECTOR 2P | 1 | |
| CN119 | GA1201C2-02X | CONNECTOR 2P | 1 | |
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| | | | | |

Components identified with the mark ⚠ have the special characterisitics for safety.
When replacing any of these components, use onlly the same type.

| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| D11 | DAP222 | DIODE | 1 | |
| D12 | MA3110L | ZENER DIODE | 1 | |
| D13 | DAP222 | DIODE | 1 | |
| D22 | MA3020 | ZENER DIODE | 1 | |
| D31,32 | SFPB-72-W | DIODE | 2 | |
| D33 | DAP202U | DIODE | 1 | |
| D34 | SFPB-72-W | DIODE | 1 | |
| D35 | DA204U | DIODE | 1 | |
| D36 | SFPB-72-W | DIODE | 1 | |
| D37 | DAP202U | DIODE | 1 | |
| D41,42 | SFPB-72-W | DIODE | 2 | |
| | | | | |
| ⚠ F1 | NMFZ011-1R6X | FUSE | 1 | |
| | | | | |
| IC11 | BA6865KV | IC | 1 | |
| IC12 | BA6417F | IC | 1 | |
| IC21 | BA6862FS | IC | 1 | |
| IC22 | BA10358F-XE | IC | 1 | |
| IC23 | BA10393F | IC | 1 | |
| IC31,32 | BA9743AFV | IC | 2 | |
| IC41 | BA9743AFV | IC | 1 | |
| IC42 | MM1572KN | IC | 1 | |
| IC43 | MM1572FN | IC | 1 | |
| | | | | |
| K1 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| | | | | |
| L21 | NQL24CN-220X | COIL 22UH | 1 | |
| L31 | NQL42EM-220X | COIL 22UH | 1 | |
| L33-36 | NQL24CN-220X | COIL 22UH | 4 | |
| L41-45 | NQL24CN-220X | COIL 22UH | 5 | |
| | | | | |
| LC11 | NQR0436-001X | LC FILTER | 1 | |
| | | | | |
| Q11-13 | 2SB1302/ST/ | TRANSISTOR | 3 | |
| Q14,15 | 2SC4081 | TRANSISTOR | 2 | |
| Q21-23 | 2SB1302/ST/ | TRANSISTOR | 3 | |
| Q31-33 | 2SJ484WY | FET | 3 | |
| Q34 | DTC124EUA | TRANSISTOR | 1 | |
| Q35 | 2SB1302/ST/ | TRANSISTOR | 1 | |
| Q36 | 2SJ484WY | FET | 1 | |
| Q37 | DTA114EUA | TRANSISTOR | 1 | |
| Q41,42 | 2SJ484WY | FET | 2 | |
| Q43 | 2SC4097/QR/ | TRANSISTOR | 1 | |
| Q44 | 2SA1577 | TRANSISTOR | 1 | |
| Q45 | 2SC4097/QR/ | TRANSISTOR | 1 | |
| Q46 | 2SA1577 | TRANSISTOR | 1 | |
| Q51 | 2SC4097/QR/ | TRANSISTOR | 1 | |
| Q52 | 2SA1577 | TRANSISTOR | 1 | |
| Q53 | 2SC4097/QR/ | TRANSISTOR | 1 | |
| Q54 | 2SA1577 | TRANSISTOR | 1 | |
| Q55 | 2SC4097/QR/ | TRANSISTOR | 1 | |
| Q56 | 2SA1577 | TRANSISTOR | 1 | |
| Q57 | 2SC4097/QR/ | TRANSISTOR | 1 | |
| Q58 | 2SA1577 | TRANSISTOR | 1 | |
| | | | | |
| QA11 | BA6254FS | TRANSIST.ARRAY | 1 | |
| | | | | |
| R101 | NRSA63J-155X | M.RESISTOR CH 1/16W 1.5M | 1 | |
| R102 | NRSA63J-274X | M.RESISTOR CH 1/16W 270K | 1 | |
| R103 | NRSA63J-681X | M.RESISTOR CH 1/16W 680 | 1 | |
| R104 | NRSA63J-272X | M.RESISTOR CH 1/16W 2.7K | 1 | |
| R105 | NRSA63J-104X | M.RESISTOR CH 1/16W 100K | 1 | |
| R106-09 | NRSA63J-511X | M.RESISTOR CH 1/16W 510 | 4 | |
| R110 | NRSA63J-223X | M.RESISTOR CH 1/16W 22K | 1 | |
| R111 | NRV142F-R22X | M.RESISTOR CH 1/4W 0.22 | 1 | |
| R112 | NRS12BK-R68X | M.RESISTOR CH 1/2W 0.68 | 1 | |
| R113 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R114 | NRSA63J-154X | M.RESISTOR CH 1/16W 150K | 1 | |
| R115 | NRSA63J-202X | M.RESISTOR CH 1/16W 2K | 1 | |
| R116 | NRSA63J-474X | M.RESISTOR CH 1/16W 470K | 1 | |
| R117,18 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 2 | |
| R120 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R121 | NRSA63J-473X | M.RESISTOR CH 1/16W 47K | 1 | |
| R122 | NRSA63J-203X | M.RESISTOR CH 1/16W 20K | 1 | |
| R123 | NRSA63J-393X | M.RESISTOR CH 1/16W 39K | 1 | |
| | | | | |
| | | | | |

| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| R124,25 | NRSA63J-102X | M.RESISTOR CH 1/16W 1K | 2 | |
| R126 | NRSA63J-274X | M.RESISTOR CH 1/16W 270K | 1 | |
| R127 | NRSA63J-272X | M.RESISTOR CH 1/16W 2.7K | 1 | |
| R128 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R131 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R132 | NRSA63J-222X | M.RESISTOR CH 1/16W 2.2K | 1 | |
| R133 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R134 | NRSA63J-472X | M.RESISTOR CH 1/16W 4.7K | 1 | |
| R135,36 | NRSA63J-104X | M.RESISTOR CH 1/16W 100K | 2 | |
| R138 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R139 | NRS12BK-R68X | M.RESISTOR CH 1/2W 0.68 | 1 | |
| R201 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R202 | NRSA63J-474X | M.RESISTOR CH 1/16W 470K | 1 | |
| R203 | NRSA63J-104X | M.RESISTOR CH 1/16W 100K | 1 | |
| R204 | NRSA63J-124X | M.RESISTOR CH 1/16W 120K | 1 | |
| R205 | NRSA63J-153X | M.RESISTOR CH 1/16W 15K | 1 | |
| R206 | NRSA63J-154X | M.RESISTOR CH 1/16W 150K | 1 | |
| R207 | NRSA63J-272X | M.RESISTOR CH 1/16W 2.7K | 1 | |
| R208 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R209,10 | NRS144J-1R0X | M.RESISTOR CH 1/4W 1 | 2 | |
| R211 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R212 | NRSA63J-393X | M.RESISTOR CH 1/16W 39K | 1 | |
| R213 | NRSA63J-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R214 | NRSA63J-273X | M.RESISTOR CH 1/16W 27K | 1 | |
| R215 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R216 | NRSA63J-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R217,18 | NRSA63J-121X | M.RESISTOR CH 1/16W 120 | 2 | |
| R219 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R220 | NRSA63J-104X | M.RESISTOR CH 1/16W 100K | 1 | |
| R221 | NRSA63J-474X | M.RESISTOR CH 1/16W 470K | 1 | |
| R222-24 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 3 | |
| R225 | NRSA63J-563X | M.RESISTOR CH 1/16W 56K | 1 | |
| R226-30 | NRSA63J-105X | M.RESISTOR CH 1/16W 1M | 5 | |
| R301 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R302 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R303,04 | NRSA63D-103X | M.RESISTOR CH 1/16W 10K | 2 | |
| R305 | NRSA63J-333X | M.RESISTOR CH 1/16W 33K | 1 | |
| R306 | NRSA63J-222X | M.RESISTOR CH 1/16W 2.2K | 1 | |
| R307 | NRSA63J-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R308 | NRSA63J-683X | M.RESISTOR CH 1/16W 68K | 1 | |
| R309 | NRSA63J-562X | M.RESISTOR CH 1/16W 5.6K | 1 | |
| R310 | NRSA63J-153X | M.RESISTOR CH 1/16W 15K | 1 | |
| R311 | NRSA63J-393X | M.RESISTOR CH 1/16W 39K | 1 | |
| R312 | NRSA63J-222X | M.RESISTOR CH 1/16W 2.2K | 1 | |
| R313 | NRSA63J-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R314 | NRSA63J-153X | M.RESISTOR CH 1/16W 15K | 1 | |
| R315 | NRSA63J-562X | M.RESISTOR CH 1/16W 5.6K | 1 | |
| R316 | NRSA63J-104X | M.RESISTOR CH 1/16W 100K | 1 | |
| R317 | NRSA63J-823X | M.RESISTOR CH 1/16W 82K | 1 | |
| R318,19 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 2 | |
| R320 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R321,22 | NRSA63D-103X | M.RESISTOR CH 1/16W 10K | 2 | |
| R323 | NRSA63J-222X | M.RESISTOR CH 1/16W 2.2K | 1 | |
| R324 | NRSA63J-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R325 | NRSA63J-473X | M.RESISTOR CH 1/16W 47K | 1 | |
| R326 | NRSA63J-472X | M.RESISTOR CH 1/16W 4.7K | 1 | |
| R327 | NRSA63J-152X | M.RESISTOR CH 1/16W 1.5K | 1 | |
| R328 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R329 | NRSA63J-563X | M.RESISTOR CH 1/16W 56K | 1 | |
| R330 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R331 | NRSA63J-473X | M.RESISTOR CH 1/16W 47K | 1 | |
| R332 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R333 | NRSA63J-222X | M.RESISTOR CH 1/16W 2.2K | 1 | |
| R334 | NRSA63J-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R335 | NRSA63J-333X | M.RESISTOR CH 1/16W 33K | 1 | |
| R336 | NRSA63J-562X | M.RESISTOR CH 1/16W 5.6K | 1 | |
| R337 | NRSA63J-223X | M.RESISTOR CH 1/16W 22K | 1 | |
| R338 | NRSA63J-333X | M.RESISTOR CH 1/16W 33K | 1 | |
| R339 | NRSA63J-563X | M.RESISTOR CH 1/16W 56K | 1 | |
| R340 | NRSA63J-823X | M.RESISTOR CH 1/16W 82K | 1 | |
| R341 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| R342-45 | NRSA63J-100X | M.RESISTOR CH 1/16W 10 | 4 | |
| R346 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R351 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 1 | |
| R401 | NRSA63J-103X | M.RESISTOR CH 1/16W 10K | 1 | |
| | | | | |
| | | | | |

| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| R402,03 | NRSA63J-0R0X | M.RESISTOR CH 1/16W 0 | 2 | |
| R404 | NRSA63D-472X | M.RESISTOR CH 1/16W 4.7K | 1 | |
| R405 | NRSA63D-332X | M.RESISTOR CH 1/16W 3.3K | 1 | |
| R406,07 | NRSA63D-472X | M.RESISTOR CH 1/16W 4.7K | 2 | |
| R408 | NRSA63D-473X | M.RESISTOR CH 1/16W 47K | 1 | |
| R409 | NRSA63D-273X | M.RESISTOR CH 1/16W 27K | 1 | |
| R410 | NRSA63J-222X | M.RESISTOR CH 1/16W 2.2K | 1 | |
| R411 | NRSA63J-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R412,13 | NRSA63D-182X | M.RESISTOR CH 1/16W 1.8K | 2 | |
| R414 | NRSA63D-122X | M.RESISTOR CH 1/16W 1.2K | 1 | |
| R415 | NRSA63J-222X | M.RESISTOR CH 1/16W 2.2K | 1 | |
| R416 | NRSA63J-102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R417 | NRSA63D-562X | M.RESISTOR CH 1/16W 5.6K | 1 | |
| R418 | NRSA63D-272X | M.RESISTOR CH 1/16W 2.7K | 1 | |
| R419 | NRSA63J-330X | M.RESISTOR CH 1/16W 33 | 1 | |
| R420,21 | NRSA63J-100X | M.RESISTOR CH 1/16W 10 | 2 | |
| ■ | LK2123A0A1 | MECHA P.C.BOARD | 1 | (RTL) |
| CN104 | GF0508F1-13X | CONNECTOR 13P | 1 | |
| CN106 | GF0508F1-20X | CONNECTOR 20P | 1 | |
| CN116 | GF0508F1-20X | CONNECTOR 20P | 1 | |
| CN124 | GF0508F1-18X | CONNECTOR 18P | 1 | |
| CN125 | GF0508F2-10X | CONNECTOR 10P | 1 | |
| CN128 | GA1201C2-02X | CONNECTOR 2P | 1 | |
| S1 | NSW0171-001 | PUSH SWITCH | 1 | |
| S2,S3 | NSW0170-001 | PUSH SWITCH | 2 | |
| TH1 | NAD0002-223X | THERMISTOR | 1 | |
| VR1 | NVQ0006-B14X | V.RESISTOR 10K | 1 | |
| ■ | LK2123B0A2 | MECHA CONN P.C.BOARD | 1 | (RTL) |
| CN100 | GF0508F1-11X | CONNECTOR 11P | 1 | |
| CN112 | GF0508C1-12W | CONNECTOR 12P | 1 | |

# SECTION 1

# SERVICE INFORMATION

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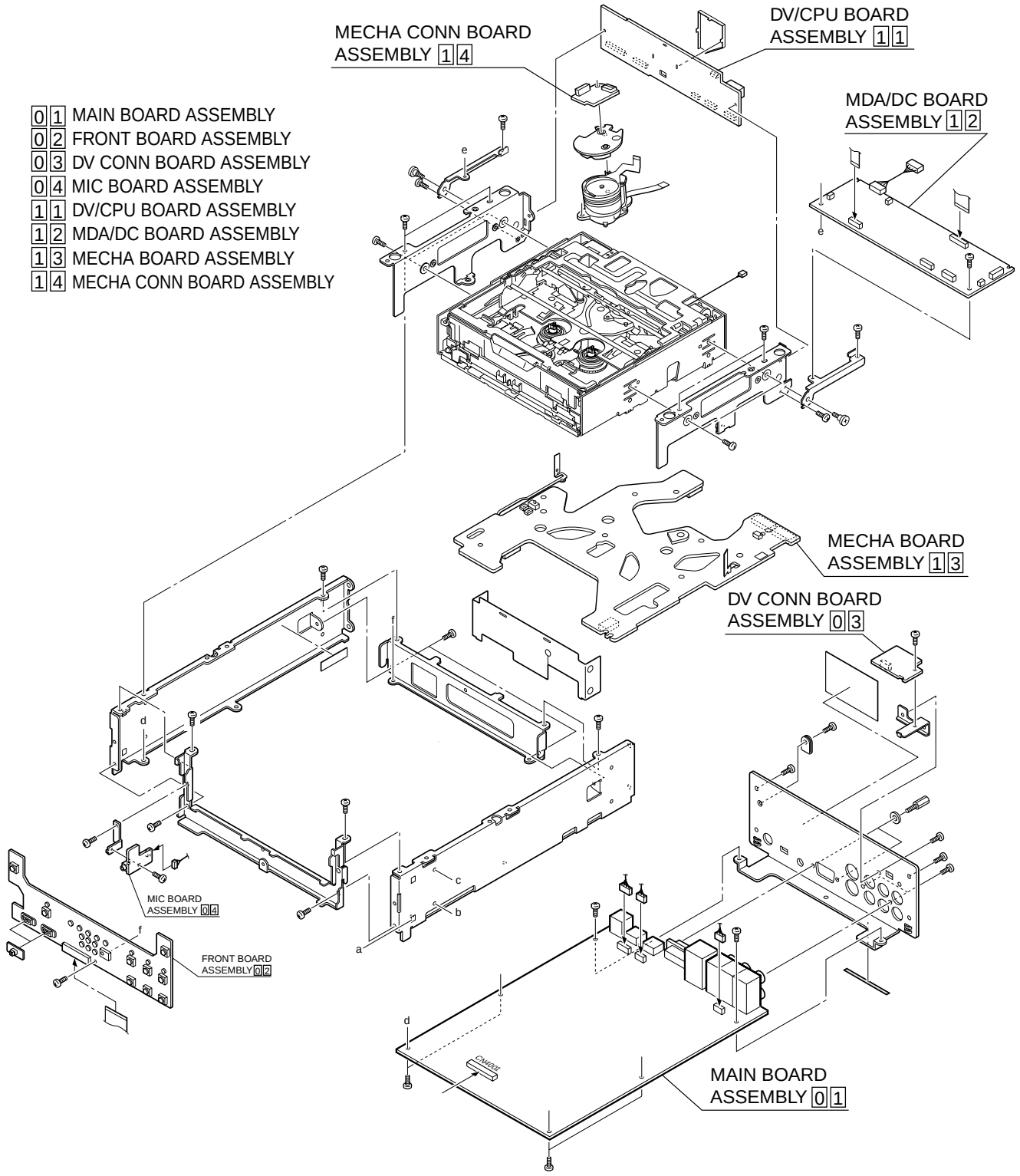
# SECTION 1
# SERVICE INFORMATION

## 1.1 CONSTRUCTION OF THE MAIN BOARD



## 1.2 HOW TO REMOVE THE OUTER COVER

### 1.2.1 Top cover

(1) Remove the four screws ①.
(2) Remove the top cover while lifting the rear part of it.

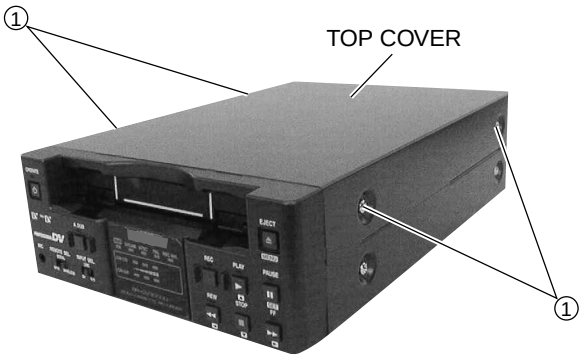



**Fig. 1.2.1**

### 1.2.2 Bottom cover

(1) Remove the four screws ②.
(2) Remove the bottom cover while lifting the rear part of it.

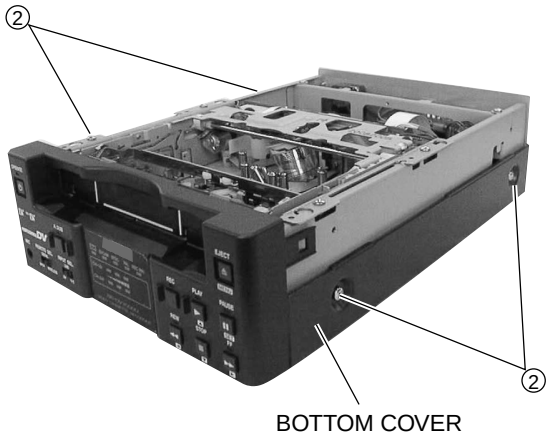



**Fig. 1.2.2**

### 1.2.3 Front panel

(1) Remove the top and bottom covers
(2) Remove the front panel while releasing the four hooks ①.

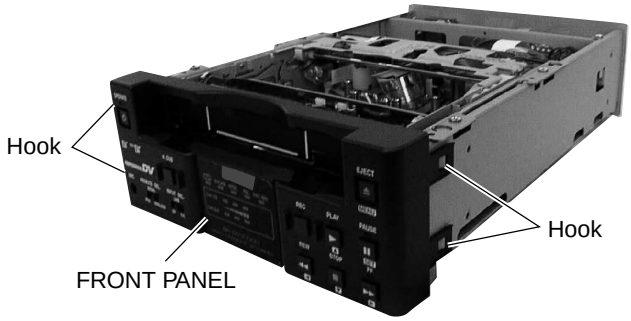



**Fig.1.2.3**

## 1.3 HOW TO REPLACE THE FUSE

(1) Unplug the DC power cable before replace the fuse.
(2) Remove the top cover.
(3) Find the fuse F1 on the MDA/DC board.

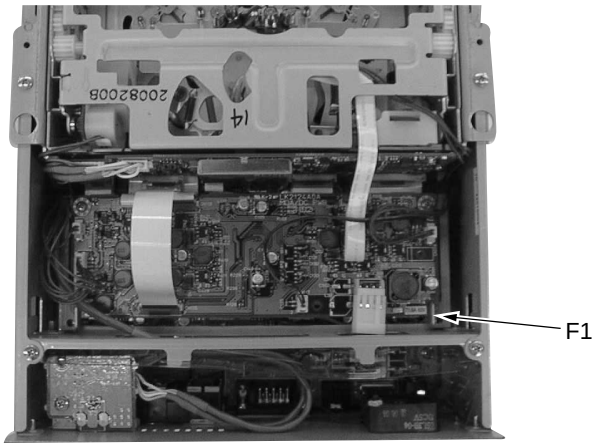



**Fig. 1.3.1**

CAUTION

- Before replacing the fuse, investigate and identify the cause of the blow out to prevent further damage.
- The fuse is an important item for safety . Please be sure to replace it with a fuse that has the specified parts numbers.

## 1.4 HOW TO EXAMINE THE BOARDS

### 1.4.1 MAIN board assembly

(1) Remove the bottom cover to examine the B-side of the main board.

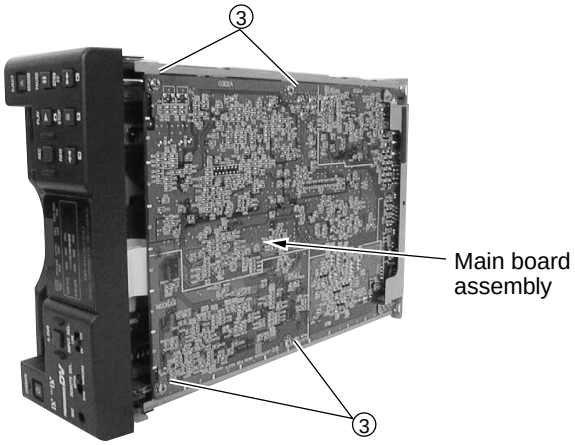



**Fig. 1.4.1 (1)**

(2) Remove the four screws ③ to examine the A-side.
(3) Remove the two screws ④ on the rear cover.
(4) Pull down the main board as shown in fig. 1.4.1 (3).

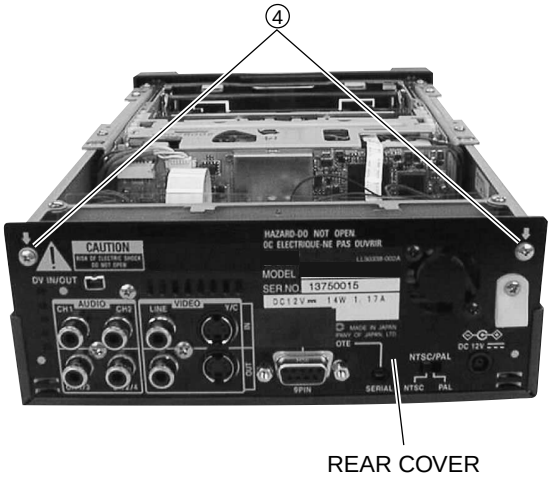
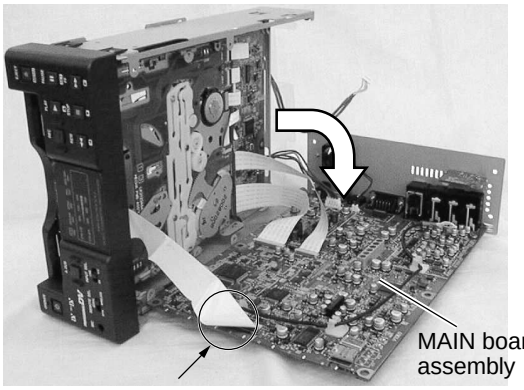



**Fig. 1.4.1 (2)**




Keep a distance to a minimum from the unit, because this FFC cable may be damaged.

**Fig. 1.4.1 (3)**

### 1.4.2 MDA/DC board assembly

(1) Remove the top cover to examine the A-side.
(2) To examine the B-side, pull down the main board as shown in Fig. 1.4.2 (2).

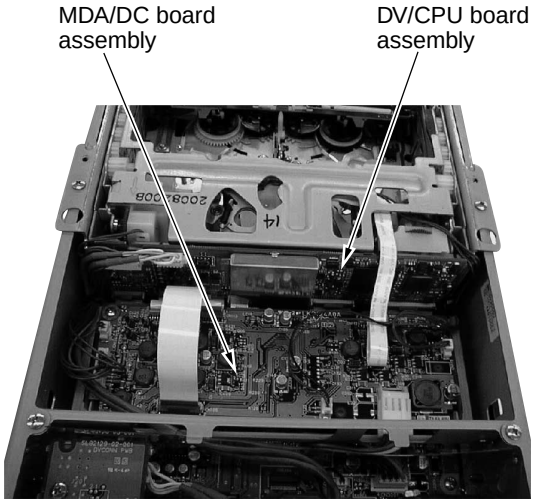



**Fig. 1.4.2 (1)**

**Fig. 1.4.2 (2)**

### 1.4.3 DV/CPU board assembly

(1) Remove the top cover as shown in Fig. 1.4.2 (1) to examine the DV/CPU board.

### 1.4.4 FRONT board assembly

(1) Remove the front panel to examine the front board.
(2) Remove the screw ⑤, and pull the board down to examine the B-side.

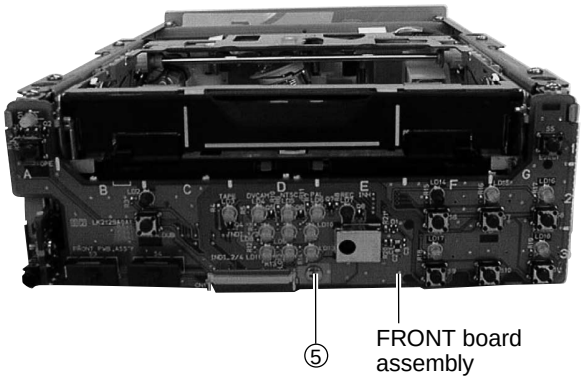



**Fig. 1.4.4**

### 1.5 HOW TO REMOVE THE MECHANISM UNIT

(1) Remove the six screws ⑥.
(2) Remove the front panel.
(3) Remove the CN111 connector on the MDA/DC board.
(4) Remove the wire that are attached to the DV CONN board.

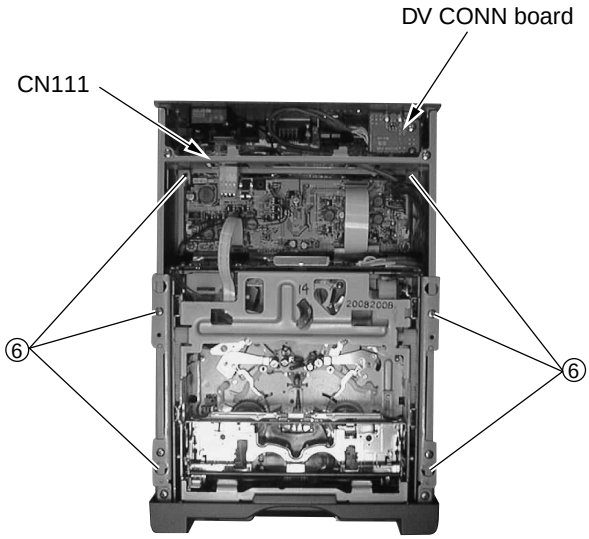



**Fig. 1.5.1**

(5) Pull up the mechanism unit.
(6) Remove CN4002 and CN4003 (FFC cables connected to the main board).

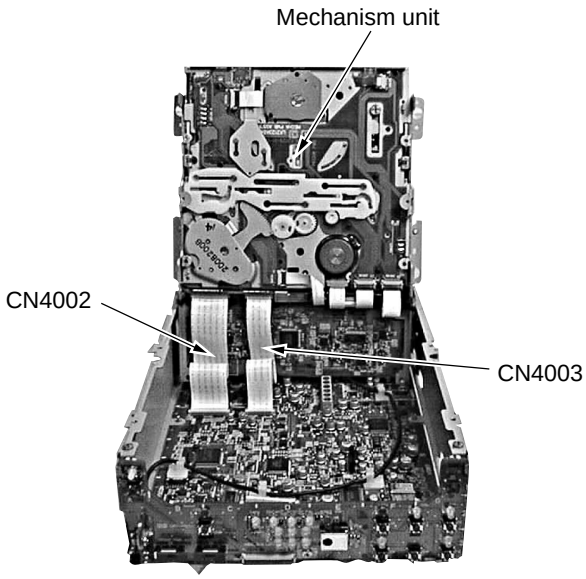



**Fig. 1.5.2**

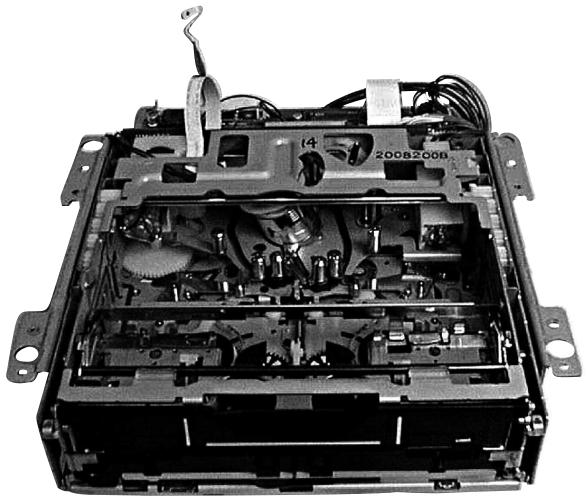


**Fig. 1.5.3**

## 1.6 HOW TO REMOVE THE MECHANISM ASSEMBLY

To remove only the mechanism assembly from the mechanism unit.

(1) Remove the shield case on the DV/CPU board and remove the CN107 FPC wire from the drum assembly.

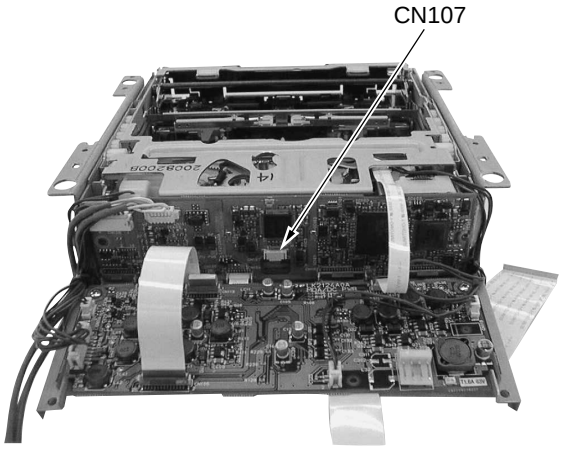



**Fig. 1.6.1**

(2) Remove the FFC wires that connects the mechanism board, which is mounted on the backs of the mechanism assembly, MDA/DC board, and the DV/CPU board.
(3) Remove the four screws ⑦ on the side.
(4) Remove the mechanism assembly as shown in Fig. 1.6.3.

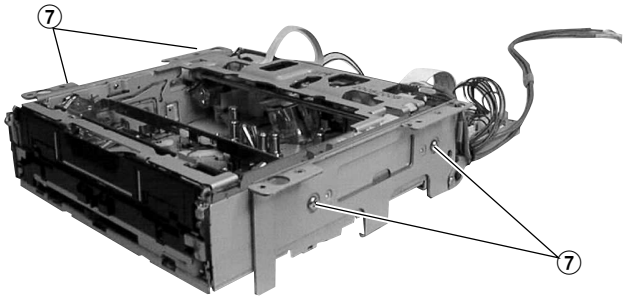



**Fig. 1.6.2**

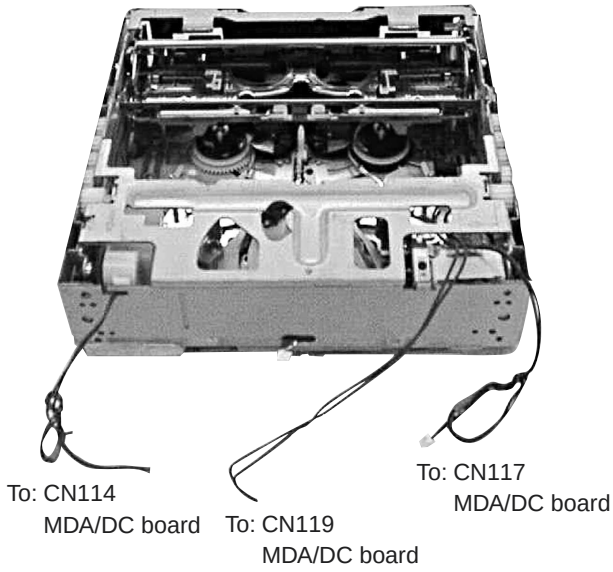



**Fig. 1.6.3 Mechanism assembly**

For instructions on disassembling each part of the mechanism assembly, please refer to the Section 2.

## 1.7 HOW TO TAKE OUT THE CASSETTE TAPE IN CASE OF EMERGENCY

An emergency system on this unit enables the cassette tape to be taken out manually.
When a cassette tape is stuck, take it out as described below.

Procedure

1. Gear Ⓐ : Emergency gear for MODE MOTOR
2. Gear Ⓑ : Emergency gear for REEL MOTOR
3. Gear Ⓒ : Emergency gear for HOUSING MOTOR

(1) In order to turn the mode motor, turn the gear Ⓐ (red color) in the direction of the arrow. While turning the gear also push it in to drive loading / unloading.

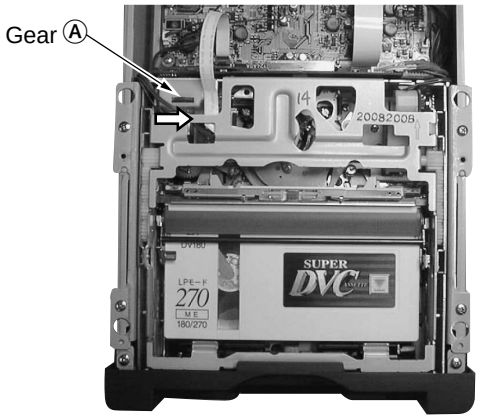



**Fig. 1.7.1**

(2) To wind the tape, when the tape is loosened a little, put a screw driver in the emergency gear Ⓑ, which drives the reel. (The drive direction does not matter.)

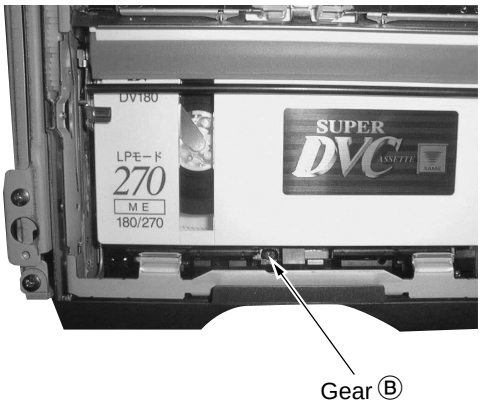



**Fig. 1.7.2**

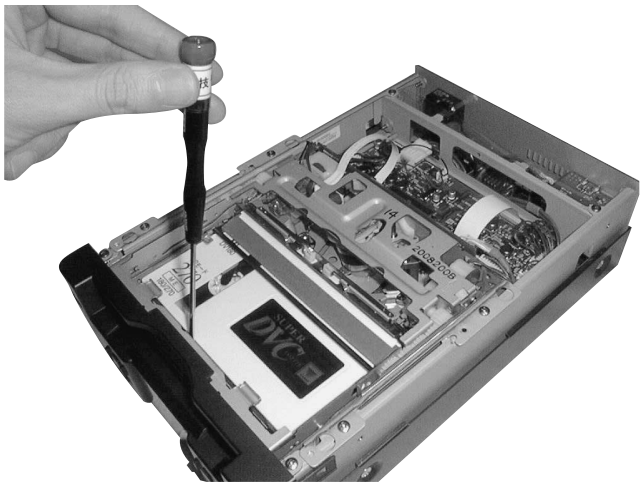


**Fig. 1.7.3**

(3) Repeat steps (1) and (2) alternately and little by little until the tape is wound completely into the cassette.
(4) Confirm that the tape is completely wound. Then, turn the gear Ⓒ (red color) in the direction of the arrow to eject the cassette housing. Take the cassette out when it comes out of the loading slot.

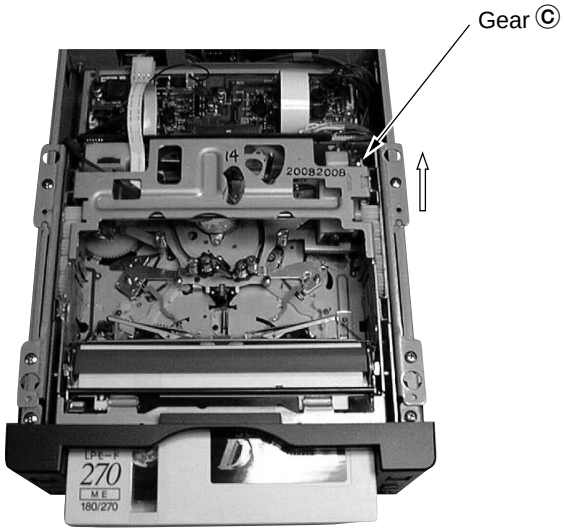



**Fig. 1.7.4**

## 1.8 SERVICE MENU

### 1.8.1 How to display the Service Menu

In no cassette condition, by pressing the MENU button for 2 seconds or longer while keeping either the REC or PLAY button pressed, the first tier of the Service Menu will be displayed on the video monitor . As shown in Table 1.8.1, the Service Menu content that is displayed will dif fer depending on which buttons you press together simultaneously.

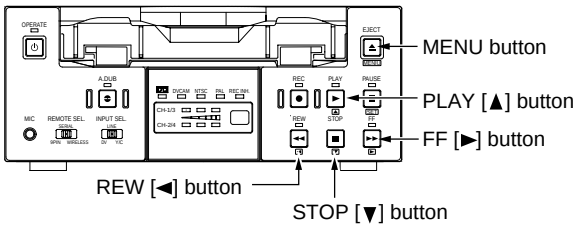



**Fig. 1.8.1 (1) Front Panel**

| Item | Displayed Content | Activation Method | |
|---|---|---|---|
| | | REC | PLAY |
| VTR1 MENU | VCR 1 Menu | ○ | ○ |
| VTR2 MENU | VCR 2 Menu | — | ○ |
| DIP SW | DIP SW Menu | — | ○ |
| HOUR METER | Hour Meter | — | ○ |
| ERROR HISTORY | Warning History | — | ○ |
| OTHERS | MENU SAVE etc. | — | ○ |
| CPU VERSION | CPU Version | ○ | — |

**Table 1.8.1 Service Menu First Tier List**

### 1.8.2 How to operate the Menu

① Press the ▲ or ▼ button on the front panel to move the cursor to the mode you want to change.
② Press the [SET] (or ► button) to select the item.
③ Press the ▲ or ▼ button to change the parameter.
④ When finished making the change, press the [SET] button. The parameter stops blinking when the change has been confirmed. (Returning using the ◄ button or [MENU] button causes the setting to revert to the status prior to the change.)
⑤ When all settings are completed, move the cursor to “P AGE BACK” and press the [SET] button to return to the MENU screen.

* If the ◄ button is pressed when the parameter is not blinking, it returns to the main screen.
* If the [MENU] button is pressed, it returns to the normal screen.

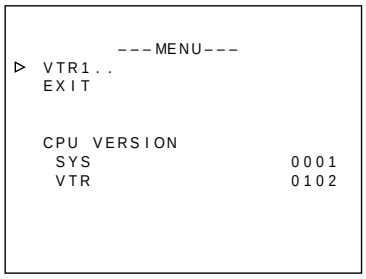



**Fig. 1.8.2 (1) Menu Screen (with REC pressed simultaneously)**

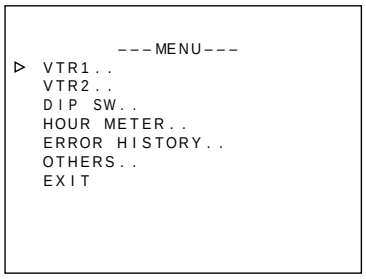



**Fig. 1.8.2 (2) Menu Screen (with PLAY pressed simultaneously)**

### 1.8.3 VTR 1 menu

| Item | Parameter | |
|---|---|---|
| REC REPEAT | [OFF] | No repeat recording |
| | 2 | Repeat recording 2 times |
| | 12 | Repeat recording 12 times |
| | ON | Full repeat recording |
| FOOT SW LEVEL | LEVEL1 | Possible from any mode |
| | [LEVEL2] | Possible only from STOP or REC PAUSE mode |
| MIC REC CH | NORMAL | Record input signal from connected MIC only on CH2 (CH4 : during A.DUB mode) |
| | CH1-MIX | [No recording mode]. Do not record input signal from connected MIC on CH1/CH2 (No recording on CH3+4 during A.DUB) |
| | [CH2-MIX] | Record input signal from connected MIC on CH1/CH2 (CH3/CH4 during A.DUB) |
| ID 422 (H) | [F0] | High Device ID (00~FF). First bit is fixed at PAL1, NTSC0 |
| ID 422 (L) | [4E] | Low Device ID (00~FF) |
| FF/REW SPEED | x50 | Maximum FF/REW speed is regulated to x50 |
| | x75 | Maximum FF/REW speed is regulated to x75 |
| | [x100] | Maximum FF/REW speed is regulated to x100 |
| | MAX | No maximum FF/REW speed regulation |
| DV DF MASK (PAL only) | [OFF] | "1" is recorded as per format |
| | ON | "0" is always recorded |

□ is default setting when shipped from factory.

**Table 1.8.3 VTR 1 Menu Setting Item List**

### 1.8.4 VTR 2 menu

| Item | Parameter | |
|---|---|---|
| LONG PAUSE | OFF | Disables long pause function |
| | [ON] | Enables long pause function |
| REC MODE | [SP] | SP recording |
| | LP | LP recording (Do not change since performance cannot be guaranteed) |
| LP WARNING | OFF | LP INH not displayed (Enables playback with LP mode) (Do not change since performance cannot be guaranteed) |
| | [ON] | LP INH displayed (Disables playback with LP mode) |
| TEST SIGNAL | [OFF] | Output color bars only. Do not output any other TEST signals. |
| | ON | Use BARS button of a attached wireless controller reception to trigger output TEST signal, rotating in this order:<br>Color bars → Color bars (rotate per track) → Grayscale → Grayscale (rotate per track) → Multi burst (Y signal only) → Multi burst (Y and C signals) → 100% white → Red → Black burst |
| TEMP THRESHOLD | [220] | Threshold of rising temperature warning display, 00~255 (220 [DCh] = internal temperature approx. 60°C). Refer to item "TEMP" in table 1.8.7 (1) |
| BATT. SHUT DOWN | [10.5] | Voltage value to carry out power OFF operation (Set at OFF, 10.0~12.0 in increments of 0.1) |
| BATT. ALARM | [11.0] | Voltage value to trigger display of battery alarm warning (Set at 10.0~12.0 in increments of 0.1) |

□ is default setting when shipped from factory.

**Table 1.8.4 VTR 2 Menu Setting Item List**

### 1.8.5 DIP switch menu

Sets the DIP SW. (All status are set to “OFF” or “0” when shipped.)

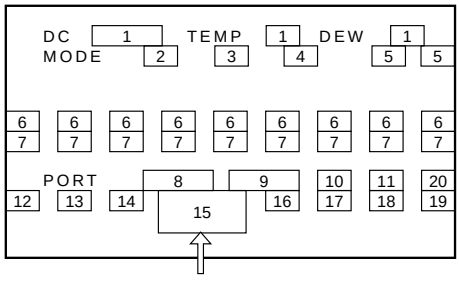
| Item | Parameter | Default setting at factory |
|---|---|---|
| DIP SW 1/3 | | |
| DIP SW – 0 | 1: Displays error rate monitor and CPU port information | 0 |
| DIP SW – 1 | ON: Disables warning detection | OFF |
| DIP SW – 2 | Change prohibited | OFF |
| DIP SW – 3 | ON: Disables DEW warning | OFF |
| DIP SW – 4 | Change prohibited | OFF |
| DIP SW – 5 | Change prohibited | OFF |
| DIP SW – 6 | Change prohibited | 0 |
| DIP SW – 7 | Change prohibited | OFF |
| DIP SW 2/3 | | |
| DIP SW – 8 | Change prohibited | OFF |
| DIP SW – 9 | Change prohibited | OFF |
| DIP SW – 10 | ON: Displays error rate solely for audio block on the error rate monitor screen | OFF |
| DIP SW – 11 | Change prohibited | OFF |
| DIP SW – 12 | Change prohibited | OFF |
| DIP SW – 13 | Change prohibited | OFF |
| DIP SW – 14 | Change prohibited | OFF |
| DIP SW – 15 | Change prohibited | OFF |
| DIP SW 3/3 | | |
| DIP SW – 16 | Change prohibited | OFF |
| DIP SW – 17 | Change prohibited | OFF |
| DIP SW – 18 | Change prohibited | OFF |
| DIP SW – 19 | Change prohibited | OFF |
| DIP SW – 20 | Change prohibited | OFF |
| DIP SW – 21 | Change prohibited | OFF |
| DIP SW – 22 | Change prohibited | OFF |
| DIP SW – 23 | Change prohibited | OFF |

□ is default setting when shipped from factory

**Table 1.8.5 DIP SW Menu Setting Item List**

**Error Rate Monitor**

By setting DIP SW-0 to “1”, the error rate value is displayed in position [15] on the monitor screen.
The error rate value is always Viterbi ON mode, with CH-1 shown in the upper row, and CH-2 shown in the lower row and total AUDIO/VIDEO.
When the error rate increases, a warning message "HEAD CLEANING REQUIRED" is displayed. The detection threshold for display is when the error rate value is over 4,500 (one-channel AV total) for 7 seconds consecutively.




Error Rate Display Value

**Fig.1.8.5 DIP SW-0 Display Screen**

### 1.8.6 HOUR METER menu

Displays and resets the various types of hour meters.
When the parameter is set to “CLEAR” and the SET button is pressed, the hour meter is cleared.

| Item | Parameter | | Time duration/number of times display is possible |
|---|---|---|---|
| DRUM | [Time display] H | Displays the drum hour meter (for drum maintenance) | 000000~999999 |
| | CLEAR | Resets the drum hour meter | Time duration |
| TOTAL DRUM | [Time display] H | Displays the total drum hour meter | 000000~999999 |
| | | | Time duration |
| POWER | [Time display] H | Displays the power hour meter | 000000~999999 |
| | CLEAR | Resets the power hour meter | Time duration |
| CAPSTAN | [Time display] H | Displays the capstan hour meter | 000000~999999 |
| | CLEAR | Resets the capstan hour meter | Time duration |
| REEL FWD | [Time display] H | Displays the reel forward direction running hour meter | 000000~999999 |
| | CLEAR | Resets the reel forward direction running hour meter | Time duration |
| REEL REV | [Time display] H | Displays the reel reverse direction running hour meter | 000000~999999 |
| | CLEAR | Resets the reel reverse direction running hour meter | Time duration |
| LOADING | [Number display] | Displays the number of times a tape was loaded | 000000~999999 |
| | CLEAR | Resets the number of times a tape was loaded | Number of times (events) |
| EJECT (MINI) | [Number display] | Displays the number of times a mini cassette was ejected | 000000~999999 |
| | CLEAR | Resets the number of times a mini cassette was ejected | Number of times (events) |
| EJECT (STD) | [Number display] | Displays the number of times a standard cassette was ejected | 000000~999999 |
| | CLEAR | Resets the number of times a standard cassette was ejected | Number of times (events) |
| FWD/REV | [Number display] | Displays the number of FWD/REV switchings | 000000~999999 |
| | CLEAR | Resets the number of FWD/REV switchings | Number of times (events) |
| FF/REW | [Number display] | Displays the number of FF/REW switchings | 000000~999999 |
| | CLEAR | Resets the number of FF/REW switchings | Number of times (events) |
| CLEANER | [Number display] | Displays the number of times the cleaner was activated | 000000~999999 |
| | CLEAR | Resets the number of times the cleaner was activated | Number of times (events) |

[ ] is default setting when shipped from factory

**Table 1.8.6 HOUR METER Menu Setting Item List**

### 1.8.7 ERROR HISTORY menu

It can display 4 errors that have occurred in the past.
Initially, when there is no error history in the memory, the first error to occur will be logged in the first position (HISTORY-1). The second and third errors to occur will be logged in (HISTORY-2) and (HISTORY-3). All subsequent errors will be overwritten in (HISTORY-4).
The fourth and subsequent errors are set to overwrite in order to prevent the user from repeatedly attempting to use a malfunctioning unit and thereby erasing any record of the initial cause error. Be sure to clear the error history before returning a repaired unit to the customer.
When resetting ERROR HISTORY, set the parameter for "CLEAR" to "EXECUTE", and press the [SET] button.

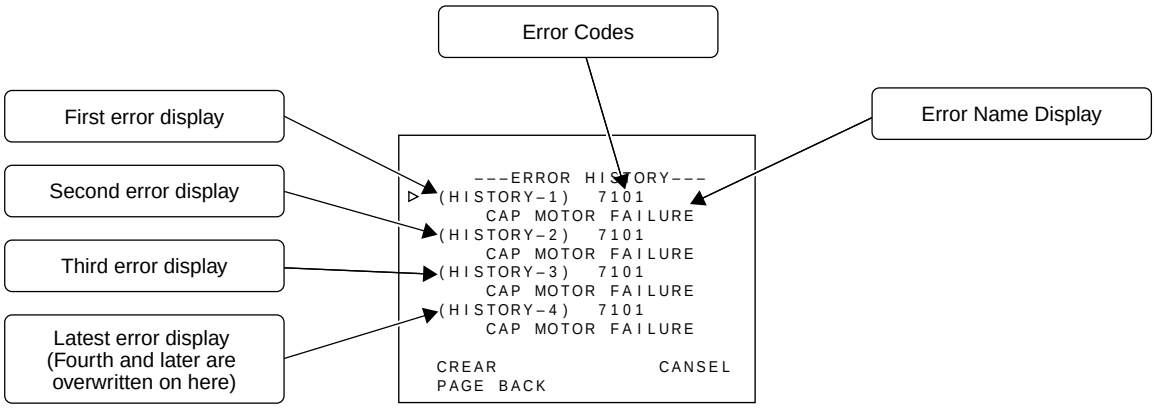



**Fig. 1.8.7 (1) ERROR HISTORY**

(1) MECHANISM INFO (Detailed information when error occurs)

Move the cursor to the error code on the "ERROR HISTORY" screen, and press the [SET] button (or ▶ button) to display the MECHANISM INFO screen as it was at the time of the error, you can check the details of the malfunction.

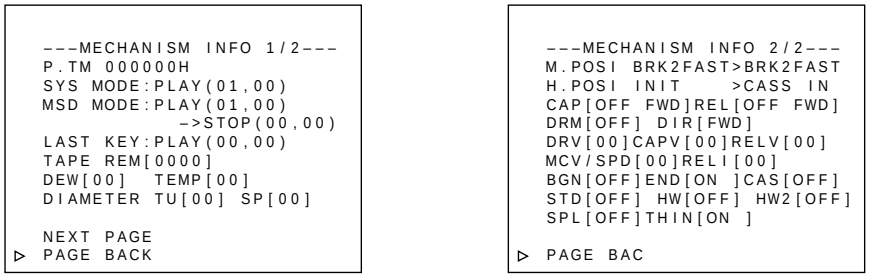
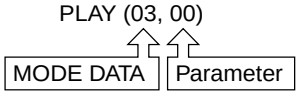
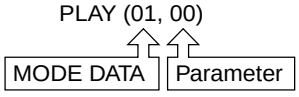
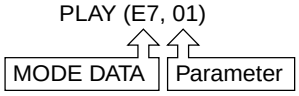



**Fig. 1.8.7 (2) MECHANISM INFO Display Screen**

| Item | Content | Displayed Content |
|---|---|---|
| P.TM | POWER HOUR METER | Power hour meter is display. |
| SYS MODE | SYSCON CPU mode when error occurred<br>PLAY (03, 00)<br>  <br> | SFF/SREW parameter is speed display.<br>(Refer to Fig. 1.8.7 (2) Speed parameter)<br>Parameters of other modes are irrelevant.<br><br>EJECT (01) : Eject ADUB (0B) : Audio Dub<br>STOP (02) : Stop ADBP (0C) : Audio Dub Pause<br>PLAY (03) : Play REC (13) : Rec<br>STL (04) : Still RECP (14) : Rec Pause<br>FF (05) : FF DVRC (15) : DV Rec<br>REW (06) : Rew DVRP (16) : DV Rec Pause<br>SFF (07) : Search Fwd POFF (1A) : Power Off<br>SREW (08) : Search Rev NDEF (1F) : During initial operation |
| MSD MODE | MSD CPU mode and target mode when error occurred<br>PLAY (01, 00)<br>  <br> | |
| LAST KEY | Final Key code when error occurred<br>PLAY (E7, 01)<br>  <br> | SFF/SREW parameter is speed display (See Fig. 1.8.7(2))<br>Other parameters are 01: ON, 00: OFF<br><br>REC (E0) : Rec SFF (EB) : Search Fwd<br>RECP (E1) : Rec Pause SREW (EC) : Search Rev<br>DVRP (E2) : DV Rec Pause STOP (F0) : Stop<br>ADUB (E5) : Audio Dub EJECT (F1) : Eject<br>ADBP (E6) : Audio Dub Pause HWUP (F2) : Housing Up<br>PLAY (E7) : Play HWDN (F3) : Housing Down<br>STL (E8) : Still POFF (F4) : Power Off<br>FF (E9) : FF DVRC (F5) : DV Rec<br>REW (EA) : Rew PON (FA) : Power on |
| TAPE REM | TAPE REMAIN | Displays tape remaining in minutes ([FFFF] : not detected) |
| DEW | DEW sensor A/D intake value | DEW detects (at low temp. [13], at normal temp [CD])<br>DEW off (at low temp. [12], at normal temp [99]) |
| TEMP | Temperature sensor A/D intake value<br>The value "49" [5°C] is threshold of detecting low temperture.<br>The value "DC" [60°C] is the threshold of displaying "OVER HEATING" message. | Temperature is displayed in hexadecimal value.<br>-10°C ➡ [22] 20°C ➡ [7C] 50°C ➡ [CC]<br>- 5°C ➡ [2D] 25°C ➡ [8C] 55°C ➡ [D4]<br>0°C ➡ [3A] 30°C ➡ [9C] 60°C ➡ [DC]<br>5°C ➡ [49] 35°C ➡ [AA]<br>10°C ➡ [59] 40°C ➡ [B7] 65°C ➡ [E1]<br>15°C ➡ [6A] 45°C ➡ [C2] 70°C ➡ [E6] |
| DIAMETER | Displays wound tape diameter (Take-up, Supply) | [00]—[FF] : 0mm-82mm (Diameter) ([00] is non-detected) |
| M. POSI | Mechanism position and target mechanism position | [2ULD], [ULD2BRK], [BRK], [BRK2FAST], [FAST], [FAST2STP], [STP], [STP2SRH], [SRH], [SRH2], [INIT]("2" is the meaning of "TO". It means transition. Refer to section 2, Mechanism Timing Chart.) |
| H. POSI | Housing position and target housing position | [EJECT], [EJECT2IN], [CASS IN], [RELEASE](Release the SUP reel lock.)<br>[INIT](For the intake and eject operation, refer to section 8.2.3.) |
| CAP | Capstan status | [ON] : Rotate [FWD/REV]: Direction display<br>[OFF] : Stop |
| REL | Reel status | [ON] : Rotate [FWD/REV]: Direction display<br>[OFF] : Stop |
| DRM | Drum status | [ON] : Rotate<br>[OFF] : Stop |
| DIR | Direction of tape running (Direction of target) | [FWD/REV] : Direction display |
| DRV | Drum control voltage | [00-FF] : 0—3V |
| CAPV | Capstan control voltage | [00-FF] : 0—3V |
| RELV | Reel control torque value | [00-FF] : 0—3A |

<table>
<tr><th>Item</th><th>Content</th><th>Displayed Content</th></tr>
<tr><td>MCV/SPD</td><td>Loading/cassette housing control voltage (when error code 4xxx and error code 3xxx is displayed.)</td><td>[00-FF] : 0—8V (Displays mode motor control voltage during error code 3xxx )<br>[00-FF] : 0-11V (Displays cassette motor control voltage during error code 4xxx)</td></tr>
<tr><td></td><td>Tape speed (When the code excepting error code 4xxx and error code 3xxx is displayed.)</td><td>[00-FA] : 0—25X (FF is displayed when the speed is faster than this.)<br>“Tape speed” is a function to convert the hexadecimal value into a decimal value, and no speed parameter of the tape.<br>(ex. FAh = 250 → The speed is 25.0X.)</td></tr>
<tr><td>RELI</td><td>Reel current (Cassette housing motor current during housing-related warning)</td><td>[00-FF] : 0—1.2A</td></tr>
<tr><td>BGN</td><td>Begin sensor</td><td>[ON] : Leader tape detected<br>[OFF] : Magnetic tape detected</td></tr>
<tr><td>END</td><td>End sensor</td><td>[ON] : Trailer tape detected<br>[OFF] : Magnetic tape detected</td></tr>
<tr><td>CAS</td><td>Cassette SW status</td><td>[OFF] : No cassette<br>[ON] : Cassette detected (STD/MINI)</td></tr>
<tr><td>STD</td><td>Standard cassette SW status</td><td>[OFF] : Mini cassette tape inserted<br>[ON] : STD cassette tape inserted</td></tr>
<tr><td>HW, HW2</td><td>Housing SW/Housing 2SW status</td><td>
<table>
<tr><th>HW SW</th><th>HW2 SW</th><th>Housing status</th></tr>
<tr><td>[OFF]</td><td>[ON]</td><td>–</td></tr>
<tr><td>[ON]</td><td>[OFF]</td><td>EJECT (Initial position)</td></tr>
<tr><td>[OFF]</td><td>[OFF]</td><td>Cassette intake</td></tr>
<tr><td>[ON]</td><td>[ON]</td><td>Ejecting Mini cassette</td></tr>
</table>
</td></tr>
<tr><td>SPL</td><td>SUP Lock SW status (during loading)</td><td>[ON] : Normal operation (TU side tape winding)<br>[OFF] : Lock release<br>(Tape begin detected, Supply side tape winding mode)</td></tr>
<tr><td>THIN</td><td>Thin tape detection</td><td>[ON] : THIN<br>[OFF] : NORMAL</td></tr>
</table>

**Table 1.8.7 (1) MECHANISM INFO content**

| Parameter | Speed | Parameter | Speed |
|---|---|---|---|
| 00 | x 0 | 82 | x 1.08 |
| 1F | x 0.03 | 83 | x 1.11 |
| 40 | x 0.10 | 84 | x 1.12 |
| 53 | x 0.20 | 85 | x 1.16 |
| 61 | x 0.30 | 91 | x 2.00 |
| 6D | x 0.50 | A9 | x 5.00 |
| 7A | x 0.80 | BD | x 9.00 |
| 7B | x 0.84 | C0 | x 10.0 |
| 7D | x 0.90 | C4 | x 12.0 |
| 7F | x 0.96 | CC | x 15.0 |
| 80 | x 1.00 | D3 | x 20.0 |
| 81 | x 1.04 | | |

**Table 1.8.7 (2) Speed parameter**

(2) Error code description

| Error code | Display | Content of occurrence | Method of detection | Detected signal |
|---|---|---|---|---|
| 0201 | CONDENSATION ON DRUM | DEW detected | If DEW sensor detects condensation | IC302 (MSD) –detects voltage of pin 318 |
| 3200 | LOADING FAILURE | Does not load | If mechanism position does not move in loading direction within 5 seconds | IC302-pin354 Rotary encoder output is detected |
| 3300 | UNLOADING FAILURE | Does not unload | If mechanism position does not move in unloading direction within 5 seconds | IC302-pin354 Rotary encoder output is detected |
| | No display | Does not intake | If intake is not completed within 5 seconds (Perform ejects without warning) | IC302 (MSD) –pin 84, CASSETTE SW is not detected within 5 seconds |
| 4100 | CASSETTE EJECT FAILURE | Does not eject | If eject is not completed within 5 seconds | IC302 (MSD) –pin 26, HOUSING SW is not detected within 5 seconds |
| 5605 | DEFECTIVE TAPE | Tape abnormality during intake | If begin and end sensor are ON after intake | IC302 (MSD) –pin 278, START sensor and pin 297, END sensor are both detected |
| 5606 | DEFECTIVE TAPE | Tape tear during unloading | If reel FG is excessive during unloading | IC302 (MSD) –pin 75, TU REEL FG is detected |
| 5607 | DEFECTIVE TAPE | Tape tear during loading | If reel FG is insufficient during loading | IC302 (MSD) –pin 75, TU REEL FG is detected |
| 5608 | DEFECTIVE TAPE | Tape tear on the loading side | If only supply side reel does not rotate during FWD/REV | IC302 (MSD) –pin 72, SUP REEL FG is not detected |
| 5609 | DEFECTIVE TAPE | Tape tear during slack takeup | If tape slack takeup is not completed within 10 seconds | IC302 (MSD) –pin 75, TU REEL FG and pin 72, SUP REEL FG are both detected |
| 5702 | TAPE END DET. ERROR | End sensor malfunction | If trailer tape sending is not completed within 3 seconds | IC302 (MSD) –pin 297, END sensor is detected for over 3 seconds |
| 5802 | TAPE BEGIN DET. ERROR | Begin sensor malfunction | If leader tape sending is not completed within 3 seconds | IC302 (MSD) –pin 278, START sensor is detected for over 3 seconds |
| 7001 | DRUM MOTOR FAILURE | Drum motor does not rotate | If drum motor does not rotate for over 4 seconds | IC302 (MSD) –pin 55, DRUM FG is not detected for over 4 seconds |
| 7101 | CAP MOTOR FAILURE | Capstan motor does not rotate | If capstan motor does not rotate for over 2 seconds | IC302 (MSD) –pin 56, CAP FG is not detected for over 2 seconds |
| 7202 | SUPPLY REEL FAILURE | SUP reel does not rotate | If SUP reel does not rotate for over 3 seconds | IC302 (MSD) –pin 72, SUP REEL FG is not detected for over 3 seconds |
| 7203 | SUPPLY REEL FAILURE | SUP side tape slack | If only SUP reel does not rotate during REV | IC302 (MSD) –pin 72, SUP REEL FG is not detected |
| 7302 | TAKE UP REEL FAILURE | TU reel does not rotate | If TU reel does not rotate for over 3 seconds | IC302 (MSD) –pin 75, TU REEL FG is not detected for over 3 seconds |
| 7303 | TAKE UP REEL FAILURE | TU side tape slack | If only TU reel does not rotate during FWD | IC302 (MSD) –pin 75, TU REEL FG is not detected |
| 7305 | TAKE UP REEL FAILURE | Tape slack during unloading | If TU reel FG is insufficient during unloading | IC302 (MSD) –pin 75, TU REEL sensor is detected |
| 7401 | REEL MOTOR FAILURE | Reel motor does not rotate | If reel motor does not rotate for more than 4 seconds during reel drive mode | IC302 (MSD) –pin 91, REEL FG is not detected for over 4 seconds |

**Table 1.8.7 (3) Error Code Contents**

### 1.8.8 OTHERS menu

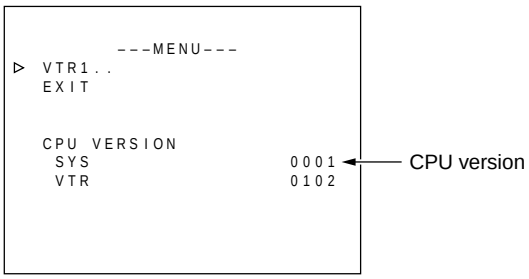
<table>
<tr><th>Item</th><th colspan="3">Parameter</th></tr>
<tr><td>MEMORY SW LOAD</td><td colspan="3">[OFF] Standard setting<br>START Menu SW information is loaded from a store aria.</td></tr>
<tr><td>MEMORY SW SAVE</td><td colspan="3">[OFF] Standard setting<br>START Menu SW information is saved to a store aria.</td></tr>
<tr><td>ALL RESET</td><td colspan="3">[CANCEL] Standard setting<br>I,U,E,EC Resets all EEP-ROM data to default settings except adjustment data, hour meter data, and IEEE1394 ID data.<br>Default settings differ by market region.<br>I: for Japan, U: for USA, E: for EU, EC: for China</td></tr>
<tr><td>MEM.EDIT</td><td colspan="3">Contents of the EEP-ROM can be edited directly<br>ADR: Address (0-03FF) display<br>DATA: Display of data embedded in address shown by ADR<br><br>Operation procedure<br>1 Press the ▲ or ▼ button to move the cursor to MEM or EDIT.<br>② Press the ► button to make the ADR parameter blink.<br>③ Press the ▲ or ▼ button to select the ADR parameter you want to edit. (Pressing ▲ or ▼ while keeping the “A.DUB” button pressed will cause it to count up or down in increments of 10.)<br>④ Press the ► button to make the DATA parameter blink.<br>⑤ Press the ▲ or ▼ button to make changes in the DATA parameter.<br>⑥ Press the [SET] button and confirm the DATA parameter. (The parameter stops blinking)<br><br>(NOTE)<br>The EEPROMs store important data for the system and careless rewriting may make normal operation of the system impossible. Do not use this function for purposes other than the IEEE1394 ID date that is described.</td></tr>
<tr><td>OPERATION CHECK</td><td colspan="3">[CANCEL] Standard setting<br>EXECUTE Enters the OPERATION check mode. All LEDs turn on. By operating the relevant buttons and slide switches, the operation of the buttons and LEDs can be checked as shown in the following list.<br>To exit from this mode, turn OPERATE to OFF.
<table>
<tr><th>Button</th><th colspan="2">LED display contents</th></tr>
<tr><td>OPERATE</td><td colspan="2">Power ON/OFF SW</td></tr>
<tr><td>EJECT</td><td colspan="2">Cassette tape LED goes out</td></tr>
<tr><td>STOP</td><td colspan="2">All except OPERATE LED go out</td></tr>
<tr><td>FF</td><td colspan="2">FF LED goes out</td></tr>
<tr><td>PLAY</td><td colspan="2">PLAY LED goes out</td></tr>
<tr><td>REW</td><td colspan="2">REW LED goes out</td></tr>
<tr><td>PAUSE</td><td colspan="2">PAUSE LED goes out</td></tr>
<tr><td>REC</td><td colspan="2">REC LED goes out</td></tr>
<tr><td>A.DUB</td><td colspan="2">A.DUB LED goes out</td></tr>
<tr><td rowspan="3">INPUT SELECT</td><td>DV</td><td>Rch LED comes on, Lch LED comes on</td></tr>
<tr><td>LINE</td><td>Rch LED comes on, Lch LED goes out</td></tr>
<tr><td>Y/C</td><td>Rch LED goes out, Lch LED comes on</td></tr>
<tr><td rowspan="3">REMOTE/LOCAL</td><td>9PIN</td><td>DV CAM LED comes on, REC INH LED goes out</td></tr>
<tr><td>SERIAL</td><td>DV CAM LED goes out, REC INH LED comes on</td></tr>
<tr><td>WIRELESS</td><td>DV CAM LED comes on, REC INH LED comes on</td></tr>
<tr><td rowspan="2">NTSC/PAL(REAR)</td><td>NTSC</td><td>NTSC LED comes on, PAL LED goes out</td></tr>
<tr><td>PAL</td><td>NTSC LED goes out, PAL LED comes on</td></tr>
</table></td></tr>
<tr><td>REAR SER. SEL</td><td colspan="3">[SERIAL] REAR terminal is used as the SERIAL REMOTE terminal.<br>TCCS REAR terminal is used as the TCCS terminal (factory use)<br>By pressing REC + ADB simultaneously while powering up, the forced TCCS mode is engaged.</td></tr>
</table>

□ is default setting when shipped from factory

**Table 1.8.8 OTHERS Menu Setting Items List**

### 1.8.9 CPU version menu

Displays version of SYSCON CPU and MSD (VCR) CPU.




Firmware version

| | |
|---|---|
| SYSCON | PLSL1144-VX-XX |
| MSD (VTR) | PLSL1141-VX-XX |

**Fig. 1.8.9 CPU Version Display**

### 1.8.10 EEP-ROMS

(1) EEP-ROMS and stored data

AG-DV2500 is equipped with two EEP-ROMS for the purpose of data stored, and their contents are as per the following list. When the circuit board or EEP-ROM is replaced, there will be no data in the EEP-ROM. When the unit is powered up, and the SYSCON CPU or MSD CPU recognizes that there is no data in the EEP-ROM, it automatically writes initial data into the EEP-ROM to initialize it. The memory data shown in Table 1.8.10 will all be reset back to default settings, so it will be necessary to perform necess ary adjustments and settings again.

| EEP-ROM | Circuit board name | Memory data content |
|---|---|---|
| IC301 | DV/CPU circuit board<br>(MSD CPU)<br>MAIN circuit board | • Adjusted data (DVC section: Adjustment menu No. 100-121)<br>• IEEE1394 ID data<br>• HOUR METER data |
| IC2003 | (SYSCON CPU) | • Adjusted data (VCR section: Adjustment menu No. 200-274)<br>• User menu and Service menu settings data<br>• ERROR HISTORY |

**Table 1.8.10 EEP-ROM Memory Data Content**

**(2) IEEE1394 ID setting method**

IEEE1394 equipped units have an ID, as defined by the IEEE1394 standard, stored in the internal EEP-ROM (IC 301). At the time of production, the ID assigned for each individual unit are written into the EEP-ROM, and a sticker bearing the ID is affixed inside the unit. When the EEP-ROM (DV/CPU board assembly) or DV/CPU board assembly is replaced, the ID needs to be set again.

Procedure for setting IEEE1394 ID

The ID is an 8 digit, hexadecimal code, with 1 high Byte being the model code, and 3 low Bytes being individual to the unit. The model code is automatically initialized, so only the lower 3 Bytes of individual code need to be set manually. Go from Service Menu → OTHERS Menu → MEM. EDIT (Memory Edit) to select the address in the ID data section and make the setting directly. The 3 low Byte address is as follows. Make the setting while confirming the ID printed on the label (ID: 80xxxxxx) pasted on the inside of the AG-DV2500 (See Fig. 1.8.10).

IEEE1394 ID data : 80 xx xx xx (Indicates on the label of AG-DV2500 inside.)
↓ ↓ ↓

Address data “391” “392” “393”

**Setting procedure**

(1) Press the ▲ or ▼ button to move the cursor to MEM. EDIT.
(2) Press the ▶ button to make the ADR parameter blink.
(3) Press the ▲ or ▼ button to select ADR parameter "391".
(4) Press the ▶ button to make the DATA parameter blink.
(5) Press the ▲ or ▼ button to set ADR = "391" for the ID.
(6) Press the [SET] button to confirm the DATA parameter.
(7) In the same manner, select ADR parameter "392" and "393" to set the ID data.

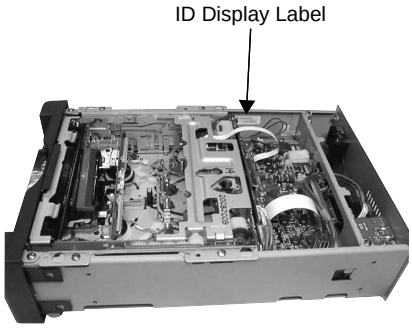



**Fig. 1.8.10 ID Label Attachment Position**

### 1.8.11 Real-time clock

The IC2002 (RS5C314) on the MAIN circuit board is a CMOS real-time clock IC that sends time/calendar data to the CPU via serial transmission. When power is not being supplied to the BT2001, there is a secondary battery (3V) to backup the IC2002. By charging for 4 hours, it provides 3 months of backup. When power is being supplied, AL3V is sent through D2002 to the IC2002 8pin, and through D2003 the BT2001 enters a state of being charged. When external power supply (AL3V) ceases, BT2001 is discharged through D2002 and the current is sent to the IC2002 8pin, resulting in a state of backup.

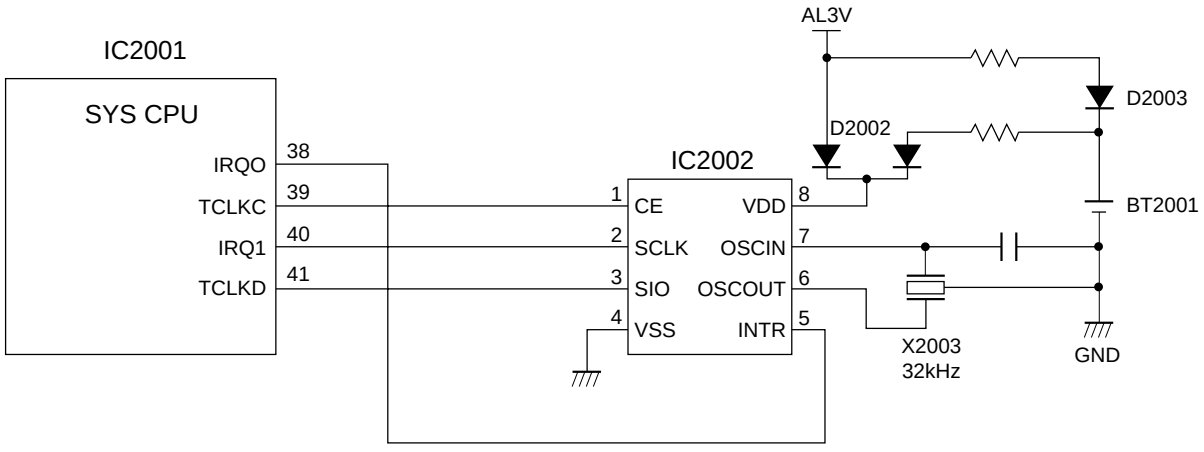



**Fig. 1.8.11 Real-time Clock Circuit**

# SECTION 2

# MECHANICAL ADJUSTMENTS

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# SECTION 2
# MECHANICAL ADJUSTMENTS

## 2.1 BEFORE ADJUSTMENTS

### 2.1.1 Precautions

1) Be sure to apply a screw securing torque when attaching a part.
   The securing torque should be 0.14 N/m (1.4 kgf/cm) unless otherwise specified.
2) Always unplug the power cord of the set before attaching, removing or soldering a part.
3) When unplugging a connector, do not pull the wire but grasp the connector body.
4) Do not make an adjustment or rotate a potentiometer blindly while the source of trouble is not identified.
5) Before adjusting electrical circuitry, be sure to wait for more than 10 minutes after turning the power on.

### 2.1.2 Measuring instruments required for adjustments

| Instrument | Condition |
|---|---|
| Oscilloscope | Calibrated instrument with measuring bandwidth of 100 MHz or more. |

**Table 2-1-1**

### 2.1.3 Equipment required for adjustments

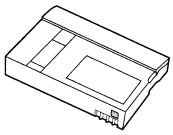
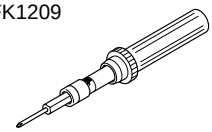
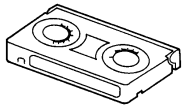
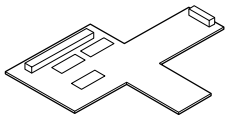
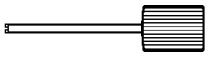
| | | | |
|---|---|---|---|
| 1 | Alignment tape | 4 | Torque screwdriver |
| VFK1842  | | VFK1209  | VFK1845 Replaceable bit (long type) |
| 2 | Cassette torque meter | 5 | REWRITE board (Connector board) |
| VFK1843 for FWD mode<br>VFK1844 for REV mode  | | VFK1846  | |
| 3 | Post driver | | |
| VFK1149  | | | |

**Table 2-1-2**

## 2.2 DISASSEMBLY/ASSEMBLY OF THE MECHANISM

### 2.2.1 Mechanism position for disassembly/assembly

The mechanism should basically be disassembled and assembled in the unloading end (No Cassette) position.
However, other mechanism position is sometimes required for disassembly or assembly. In such a case, the required position is specified every time in the descriptions in 2.6, “Replacement of major parts”.

### 2.2.2 Mode transition

To change the mechanism mode manually, rotate the emergency gear of the mode motor assembly shown in Fig. 2.2.1 as below while holding it down.
The mechanism mode can be changed by applying 3 V DC to the mode motor electrodes.
The MINI and STD reel positions can be changed over by manually sliding the reel change plate.

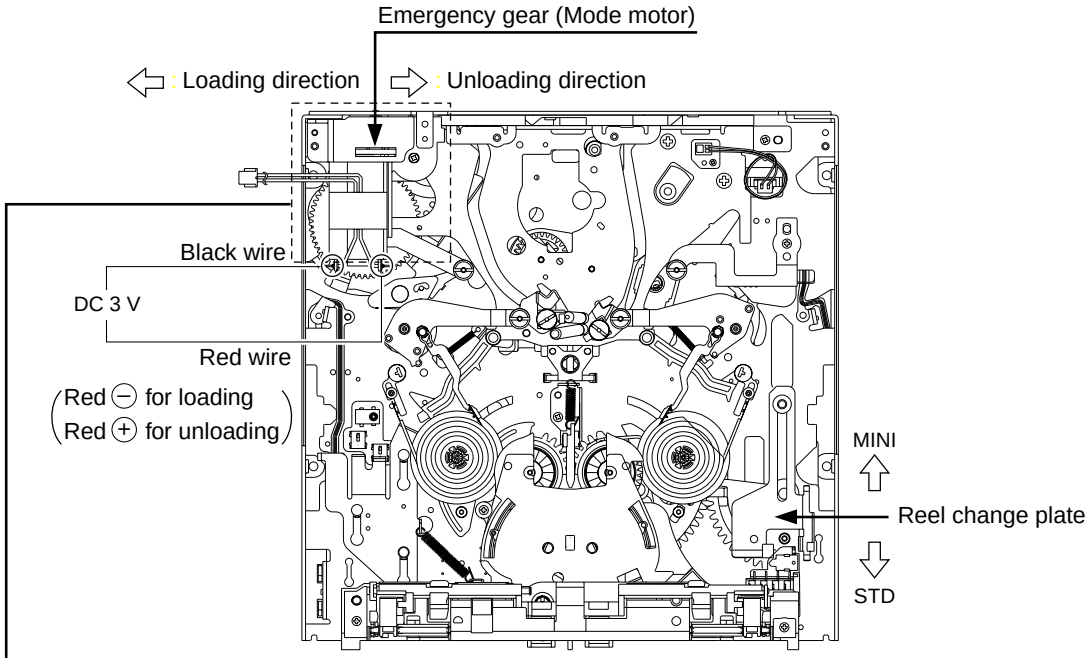



**Fig. 2.2.1**

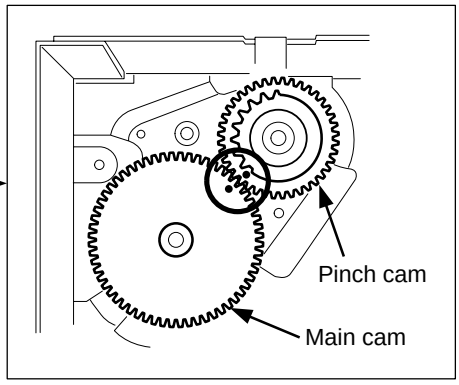



**Fig. 2.2.2**

**Important:**
**When turn the Emergency gear (Mode) to Unloading direction by hand until the hole of the Main cam and the hole of the pinch cam in a straitline connecting. (refer to Fig.2.2.2)**
**Please do not turn the Emergency gear (Mode) more than the above.**

## 2.3 MECHANISM TIMING CHART

See Table 2-3-1 below.

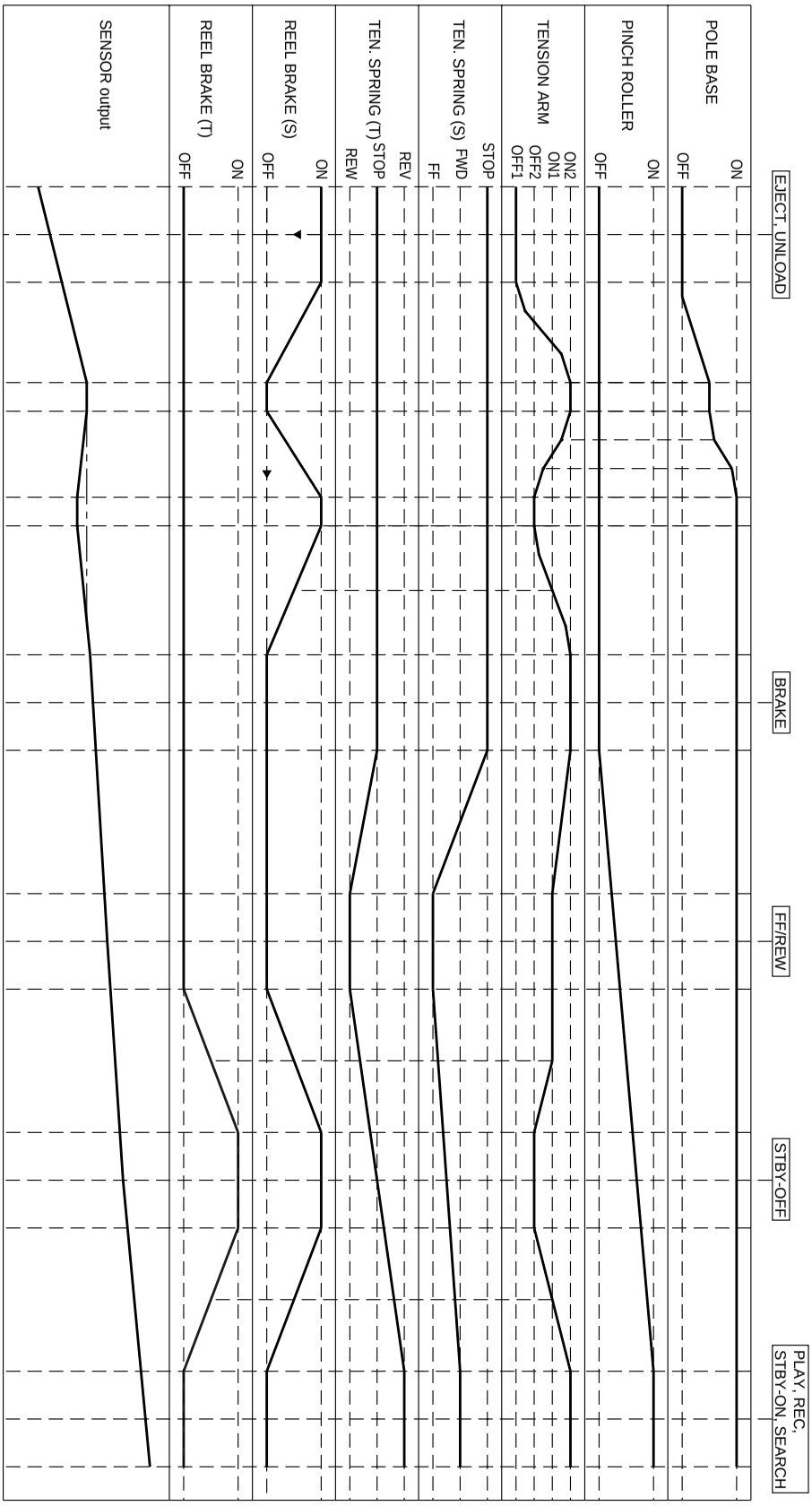



**Table 2-3-1**

## 2.4 MAINTENANCE AND INSPECTION OF MAJOR PARTS

Periodical inspection and maintenance are requisite to maintain the initial performance and reliability of the product. Table 2-4-1 (Maintenance & Inspection List) has been compiled assuming standard operating conditions, and the specifications in the table are greatly variable depending on the actual operating environment and conditions. Remember that, if the maintenance and inspection are not enforced properly, the operating hours of the product will not only reduce considerably but other unfavorable influences may produce.

Rubber parts may deform or degrade after long period of storage even if they are not used in this period.

The service life of the drum is variable depending on the tape used and operating environment.

### 2.4.1 Layout of Major Parts

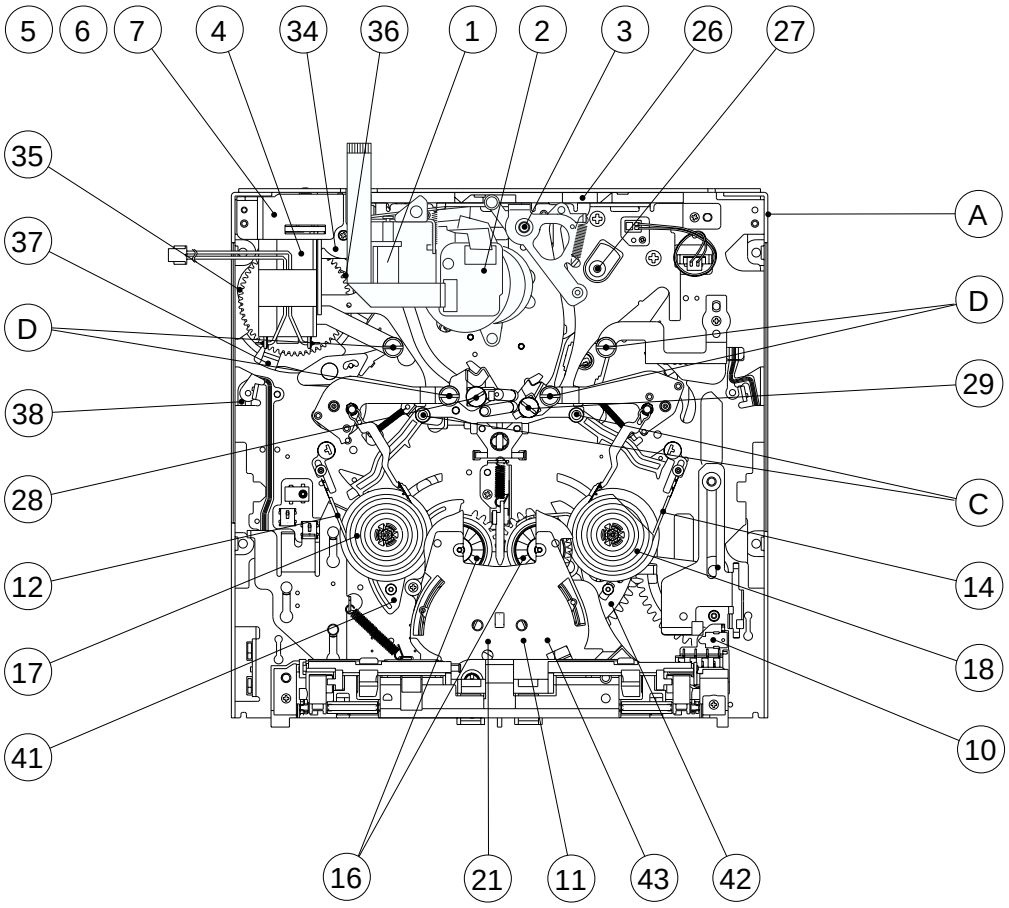



**Fig. 2.4.1**

### 2.4.2 Maintenance/inspection table

1) Replace the whole mechanism assembly in the 6000H maintenance.
2) The SUP/TU tension arm assemblies, sub-deck assembly (ENT. G. roller section) and EGR ARM assembly have undergone perpendicularity management after being assembled. If any of the above assemblies needs replacement, the whole mechanism assembly should be replaced.

| | Part Name | Symbol No. | Operating Hours (DRUM Hour Meter) | | | | | | | | | | | | Ref. Section |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 500 | 1000 | 1500 | 2000 | 2500 | 3000 | 3500 | 4000 | 4500 | 5000 | 5500 | 6000 | |
| 1 | ㉘ SUP P. BASE ASSEMBLY | M3 66 | ★ | ○★ | ★ | ● | ★ | ○★ | ★ | ● | ★ | ○★ | ★ | — | 2.6.17 |
| 2 | ㉙ TU P. BASE ASSEMBLY | M3 67 | ★ | ○★ | ★ | ● | ★ | ○★ | ★ | ● | ★ | ○★ | ★ | — | 2.6.17 |
| 3 | Ⓓ GUIDE ROLLER | M3 30 | ★ | ○★ | ★ | ● | ★ | ○★ | ★ | ● | ★ | ○★ | ★ | — | 2.4.1 |
| 4 | Ⓓ COLLER | M3 31 | ★ | ○★ | ★ | ● | ★ | ○★ | ★ | ● | ★ | ○★ | ★ | — | 2.4.1 |
| 5 | Ⓓ FRANGE | M3 32 | ★ | ○★ | ★ | ● | ★ | ○★ | ★ | ● | ★ | ○★ | ★ | — | 2.4.1 |
| 6 | ③ PINCH R.ARM ASSEMBLY | M3 4 | ★ | ○★ | ★ | ● | ★ | ○★ | ★ | ● | ★ | ○★ | ★ | — | 2.6.3 |
| 7 | ② DRUM ASSEMBLY | M3 80 | ★ | ★ | ★ | ● | ★ | ★ | ★ | ● | ★ | ★ | ★ | — | 2.6.2 |
| 8 | ㉗ CAPSTAN SHAFT | M3 64 | ★ | ★ | ★ | ★ | ★ | ★ | ★ | ★ | ★ | ★ | ★ | — | |
| 9 | ㉗ CAPSTAN MOTOR | M3 64 | — | — | — | — | — | — | — | — | — | ○ | — | — | 2.6.16 |
| 10 | ㉑ REEL MOTOR | M3 24 | — | — | — | — | — | — | — | — | — | ○ | — | — | 2.6.13 |
| 11 | ⑩ M.I.C. terminal | M3 51 | ★ | ★ | ★ | ★ | ★ | ★ | ★ | ★ | ★ | ★ | ★ | — | |
| 12 | ⑩ M.I.C. CONNECTOR<br>㊸ FPC 1 ASSEMBLY<br>⑪ IDLER COVER | M3 51<br>M3 49<br>M3 52 | —<br>★<br>— | —<br>★<br>— | —<br>★<br>— | —<br>★<br>— | —<br>★<br>— | —<br>★<br>— | —<br>★<br>— | —<br>★<br>— | —<br>★<br>— | —<br>★<br>— | —<br>★<br>— | —<br>—<br>— | 2.6.6<br>2.6.25<br>2.6.7 |
| 13 | Ⓒ CASSETTE GUIDE PIN | | ★ | ★ | ★ | ★ | ★ | ★ | ★ | ★ | ★ | ★ | ★ | — | 2.4.1 |
| 15 | ④ MODE MOTOR ASSEMBLY | M3 47 | — | — | — | — | — | — | — | — | — | — | — | — | 2.6.4 |
| 16 | ㉟ MAIN CAM | M3 12 | — | — | — | — | — | — | — | — | — | — | — | — | 2.6.20 |
| 17 | ⑥ GEAR 1 | M3 44 | — | — | — | — | — | — | — | — | — | — | — | — | 2.6.4 |
| 18 | ⑦ GEAR 2 | M3 45 | — | — | — | — | — | — | — | — | — | — | — | — | 2.6.4 |
| 19 | ⑤ WORM WHEEL | M3 46 | — | — | — | — | — | — | — | — | — | — | — | — | 2.6.4 |
| 20 | ㉞ PINCH CAM GEAR | M3 13 | — | — | — | — | — | — | — | — | — | — | — | — | 2.6.20 |
| 21 | ㉖ PINCH PLATE | M3 17 | — | — | — | — | — | — | — | — | — | — | — | — | 2.6.16 |
| 22 | ㊳ CTL. PLATE | M3 9 | — | — | — | — | — | — | — | — | — | — | — | — | 2.6.22 |
| 23 | ㊲ CTL. ARM ASSEMBLY | M3 56 | — | — | — | — | — | — | — | — | — | — | — | — | 2.6.21 |
| 24 | ㊱ ARM GEAR | M3 11 | — | — | — | — | — | — | — | — | — | — | — | — | 2.6.21 |
| 25 | ㊶ SUP REEL PLATE ASSEMBLY | M3 54 | — | — | — | — | — | — | — | — | — | — | — | — | 2.6.24 |
| 26 | ㊷ TU REEL PLATE ASSEMBLY | M3 55 | — | — | — | — | — | — | — | — | — | — | — | — | 2.6.24 |
| 27 | ⑰ SUP REEL DISK ASSEMBLY | M3 35 | — | ○ | — | ●△ | — | ○ | — | ●△ | — | ○ | — | — | 2.6.10 |
| 28 | ⑱ TU REEL DISK ASSEMBLY | M3 36 | — | ○ | — | ●△ | — | ○ | — | ●△ | — | ○ | — | — | 2.6.10 |
| 29 | ⑯ CONN. GEAR ASSEMBLY | M3 37 | — | ○ | — | ●△ | — | ○ | — | ●△ | — | ○ | — | — | 2.6.10 |
| 30 | ⑫ SUP TENSION BAND ASSEMBLY | M3 38 | — | ○ | — | ● | — | ○ | — | ● | — | ○ | — | — | 2.6.8 |
| 31 | ⑭ TU TENSION BAND ASSEMBLY | M3 39 | — | ○ | — | ● | — | ○ | — | ● | — | ○ | — | — | 2.6.9 |
| 32 | ⑪ IDLER ARM ASSEMBLY | M3 40 | — | ○ | — | ● | ○ | ○ | — | ● | — | ○ | — | — | 2.6.7 |
| 33 | ① HEAD CLEANAER | M3 5A | ○ | ● | ○ | ● | — | ● | ○ | ● | ○ | ● | ○ | — | 2.6.2 |
| 34 | Ⓑ CASSETTE HOUSING ASSEMBLY | M3 90 | — | — | — | — | — | — | — | — | — | — | — | — | 2.6.1 |
| 35 | Ⓐ MECHANISM ASSEMBLY | M3 1 | — | — | — | — | | — | — | — | — | — | — | ● | |

★: Clean with ethyl alcohol. ○: Check and replace if required. ●: Replace. △: Oil the shaft.
After replacing a part, apply lubricant to the required points.

**Table 2-4-1**

### 2.4.3 Cleaning

The tape transport system should be cleaned periodically. Be sure to clean the tape transport system upon receipt of a set for servicing, etc. To clean use a cleaning cloth moistened with ethyl alcohol.

1) When the video head is stained, the playback output level decreases and a read error will not be able to be corrected by the error correction. If this occurs, block noise appear on the monitor, the audio will not be output, and the video output will eventually be lost when the video head becomes extremely dirty. To clean the drum, while applying cleaning cloth (service part No. : VZZ0095) or high quality paper gently to the upper drum, rotate the upper drum in the normal (counterclockwise) rotation direction.
   The dirt deposited on the video head can be removed by playing a cleaning tape.

**CAUTION**

**Do not move the cleaning paper while applying it to the video head. Otherwise, the video head may be damaged.**

2) The lower drum tends to attract dirt on the leader section and the linearity cannot be guaranteed when the lower drum becomes extremely dirty. Particularly, the tape inlet and output sections gather dirt easily, causing symptoms such as dropout of the reproduced FM signal, deterioration of video quality and lack of audio output. In order to clean the leader section, rub a toothpick gently along its edge.

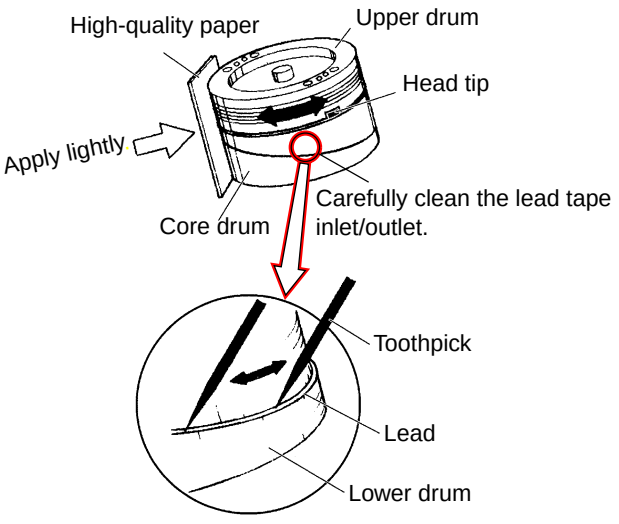



**Fig. 2.4.2**

3) Stain of the tape transport system leads to tape damage. When magnetic dust or dirt penetrates inside the rollers, a rotation malfunction may affect the video. Clean the tape transport parts carefully using a cleaning cloth or cotton swab moistened with ethyl alcohol.

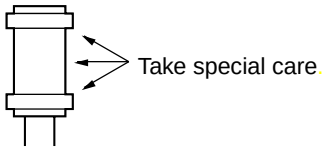



**Fig. 2.4.3**

### 2.4.4 Oiling and Greasing

Table 2-4-2 shows the oil and greases used with the set.

| Classification | Name | Part No. |
|---|---|---|
| Oil | Cosmo Hydro HV100 | VFK1778 |
| Grease | Maltemp SH-P | VFK1748 |

**Table 2-4-2**

1) Oiling should be performed periodically. Oil the shafts by referring to the maintenance table.
2) After replacing a part, grease the required points. For the parts to be greased see the exploded diagram in section 6, “EXPLODED VIEWS & REPLACEMENT PARTS LIST”.
3) As Hanal separates over time, be sure to mix it (shake) well before use.
4) Take care not to leave grease or oil on the tape transport parts which come into contact with the tape or on the brake pads.
5) Take care not to apply too much oil or grease. The standard oiling quantity is one drop and the standard greasing quantity is the quantity with which the grease does not overflow.

## 2.5 PERIODICAL MAINTENANCE

Perform maintenance at the correct times in accordance with the maintenance table.
Fig. 2-5-1 shows the flow chart of periodical maintenance procedures at different operating hours.

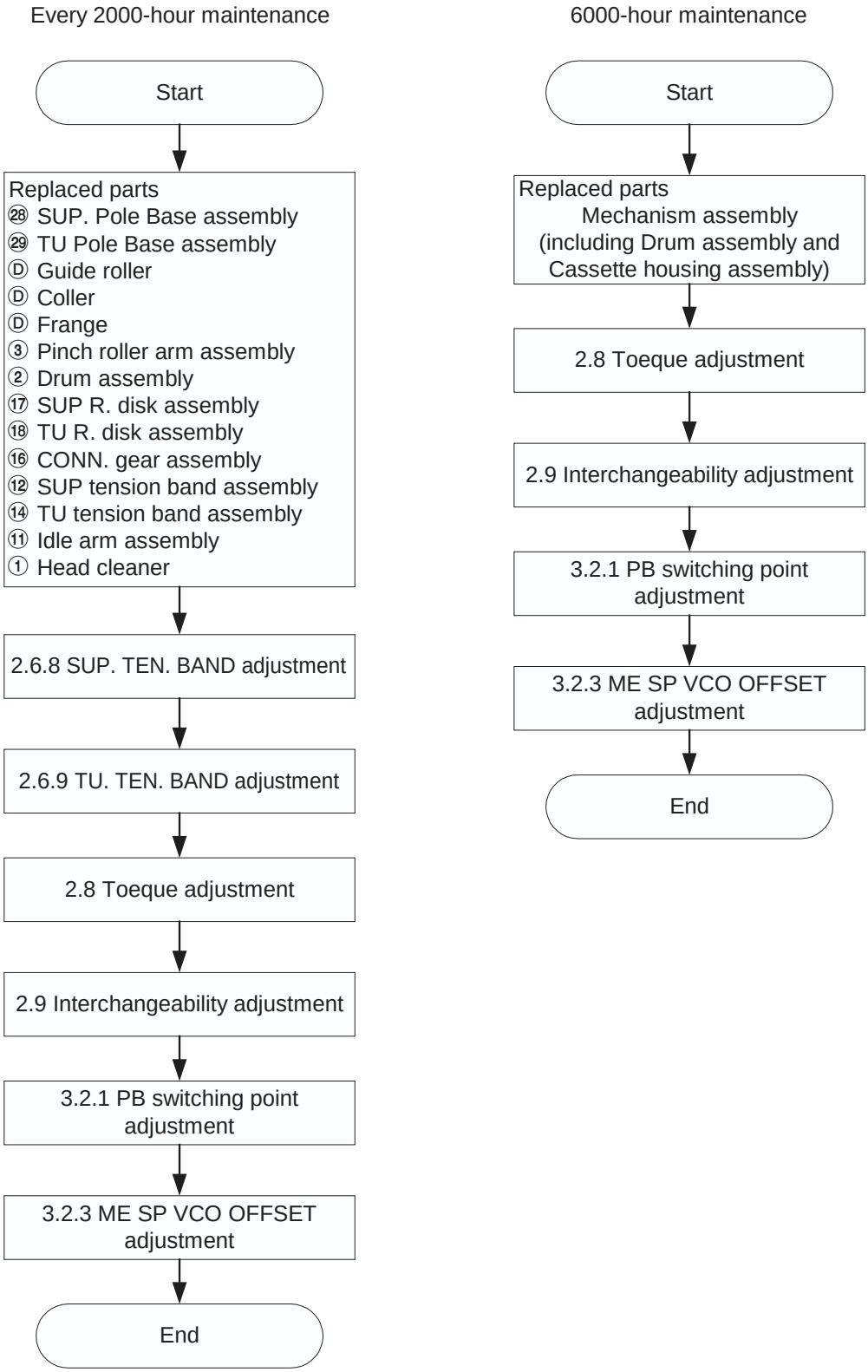



**Fig. 2.5.1**

| No. | Item | Ref. Illustration | Procedure |
|---|---|---|---|

## 2.6 REPLACEMENT OF MAJOR PARTS

- The disassembly procedures shown in oder of disassembly. To remove the part, it is necessary to have completed all the stages before it.
- Always use a torque driver and the specified securing torque to tighten screws.
- Position the mechanism to the unloading end (No Cassette) mode before disassembly or assembly unless otherwise specified.

| | | |
|---|---|---|
| 1 | **Ⓑ Cassette housing assembly** | **<Disassembly>**<br>1) Turn the cassette housing motor emergency gear in the direction of the arrow, while pushing the lock lever in the direction of arrow 2, then move the cassette holder so that the cassette holder bar comes in the position shown in the illustration.<br>2) Remove two screws (S1), slide the cassette housing toward the front and remove it by releasing the lock on the Hook function as shown by arrow 3.<br><br>**<Assembly>**<br>1) Reverse the disassembly procedure.<br>2) Screws (S1) should be tightened using a securing torque of 0.2 N/m (2 kgf/cm).<br><br>**Note:**<br>**Be sure to attach the cassette housing in the same position as when it was removed.** |
| 2 | **① Head cleaner assembly/ ② Drum assembly** | **<Disassembly>**<br>**Head cleaner assembly:**<br>1) Remove the screw (S2) and remove the head cleaner assembly.<br><br>**Drum assembly:**<br>1) Remove the Drum FPC from the DV/CPU circuit board CN107.<br>2) Remove the screw (S3) and remove the drum assembly.<br><br>**<Assembly>**<br>1) Reverse the disassembly procedure.<br>2) Drum section screws (S3) should be tightened in order of ① — ③ and using a securing torque of 0.04 N/m (0.4 kgf/cm). |

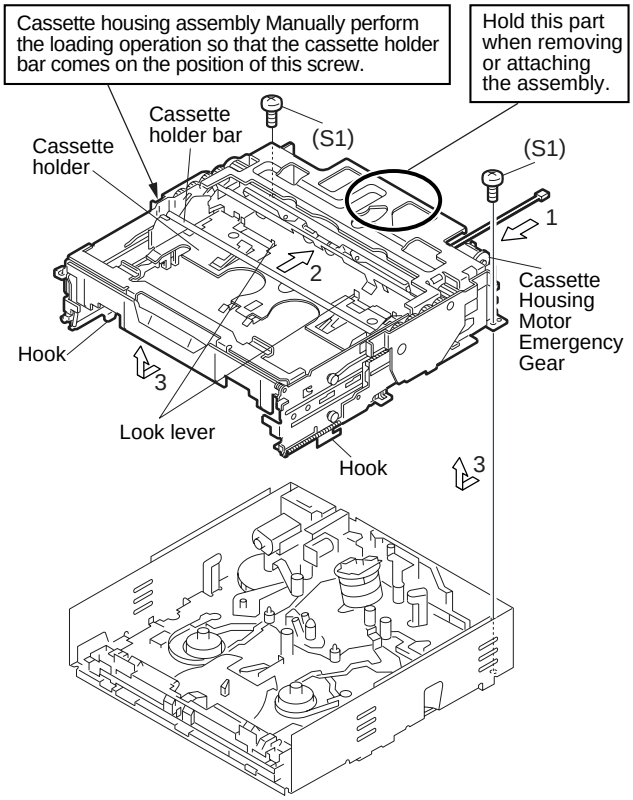



**Fig. 2.6.1**

Hook function of the Cassette housing.

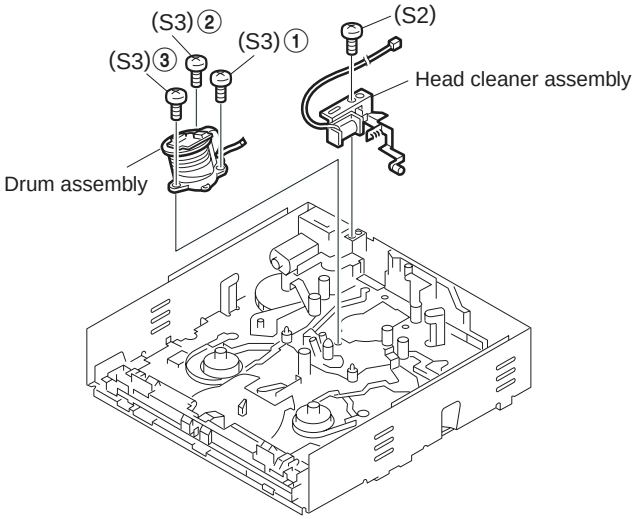
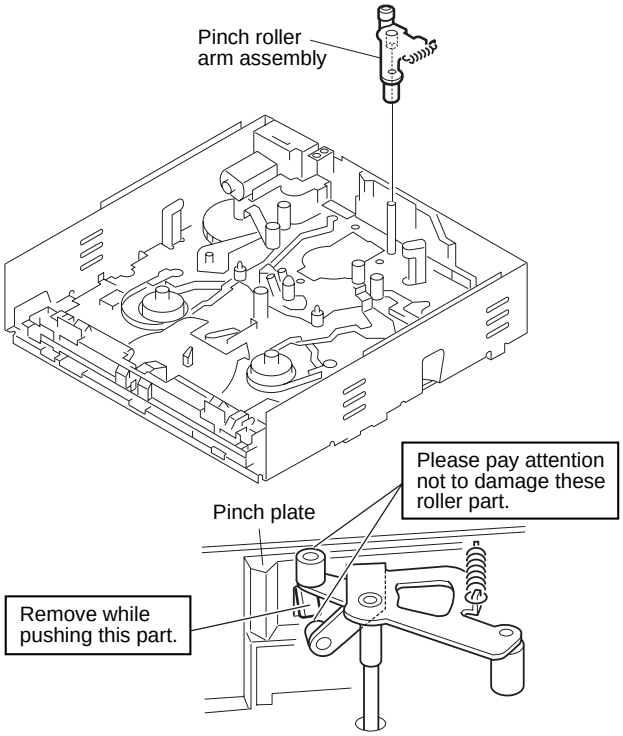
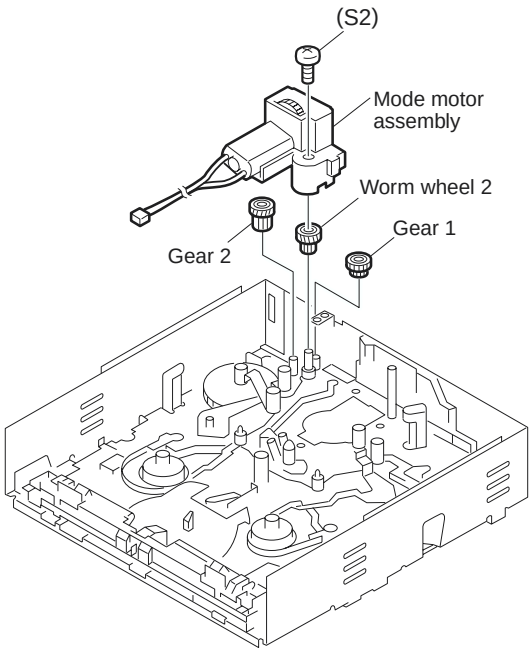
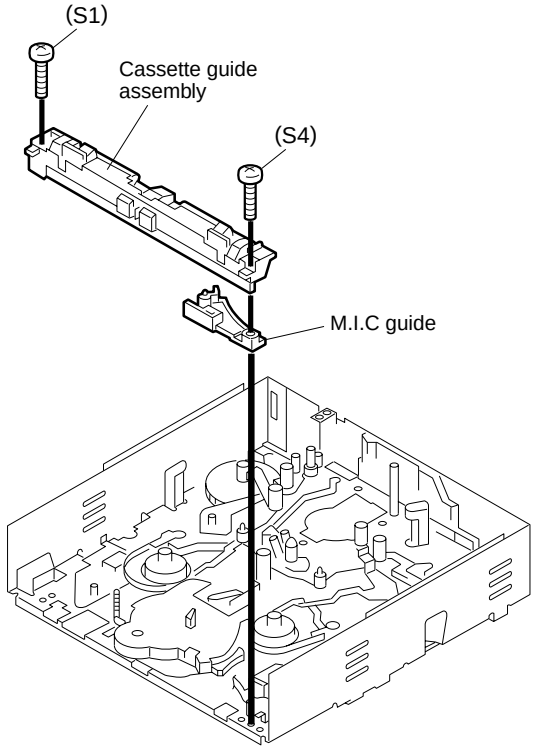
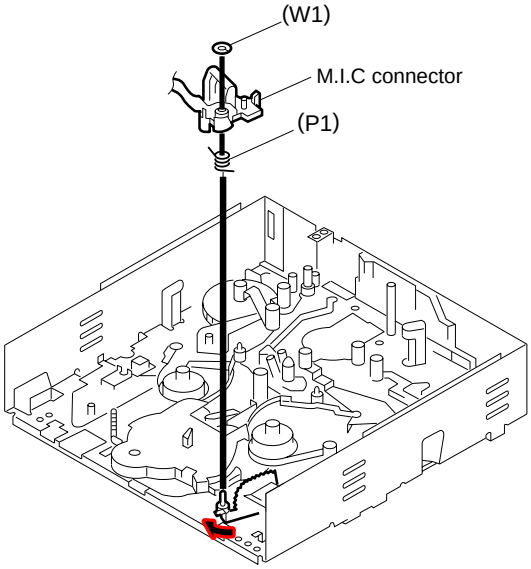
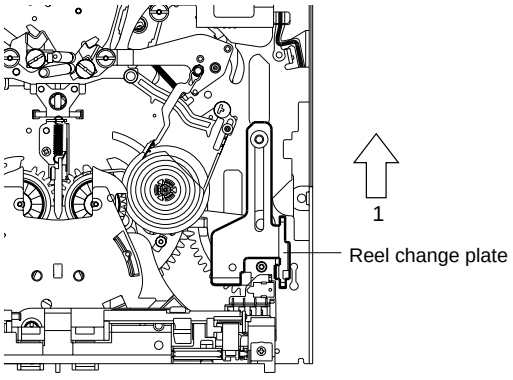



**Fig. 2.6.2**

| No. | Item | Ref. Illustration | Procedure |
|---|---|---|---|

| | | |
|---|---|---|
| 3 | **③ Pinch roller arm assembly**<br>  <br><br>**Fig. 2.6.3** | **<Disassembly>**<br>1) While pushing the hook on the pinch plate, lift the pinch roller arm assembly upward to remove.<br><br>**<Assembly>**<br>1) Reverse the disassembly procedure. |
| 4 | **④ Mode motor assembly/ ⑤ Worm wheel 2/ ⑥ Gear 1/ ⑦ Gear 2**<br>  <br><br>**Fig. 2.6.4** | **<Disassembly>**<br>**Mode motor assembly:**<br>1) Remove the screw (S2) and remove the mode motor assembly.<br><br>**Worm wheel 2 & gears 1 and 2:**<br>1) Lift the worm wheel 2 upward to remove.<br>2) Lift the gear 1 upward to remove.<br>3) Lift the gear 2 upward to remove.<br><br>**<Assembly>**<br>1) Reverse the disassembly procedure.<br><br>**Note:**<br>**Worm wheel 2 and gears 1 and 2 do not require the mechanism phase adjustment.** |

| No. | Item | Ref. Illustration | Procedure |
|---|---|---|---|

| | | |
|---|---|---|
| 5 | **Cassette guide assembly/ M.I.C guide**<br>  <br><br>**Fig. 2.6.5** | **<Disassembly>**<br>**Cassette guide assembly:**<br>1) Remove the screws (S1) (S4) and remove the cassette guide assembly.<br><br>**M.I.C guide:**<br>1) While pushing the hook on the M.I.C guide, lift it upward to remove.<br>**<Assembly>**<br>1) Reverse the disassembly procedure. |
| 6 | ⑩ **M.I.C connector**<br>  <br><br>**Fig. 2.6.6 (1)** | **<Disassembly>**<br>1) Slide the reel change plate in the direction of arrow 1 to place the reel in the mini-cassette position.<br>2) Remove the slit washer (W1) and remove the M.I.C connector.<br>3) Remove the spring (P1).<br><br>**<Assembly>**<br>1) Reverse the disassembly procedure.<br>  <br><br>**Fig. 2.6.6 (2)** |

| No. | Item | Ref. Illustration | Procedure |
|---|---|---|---|

7 ⑪ **Idler arm assembly**

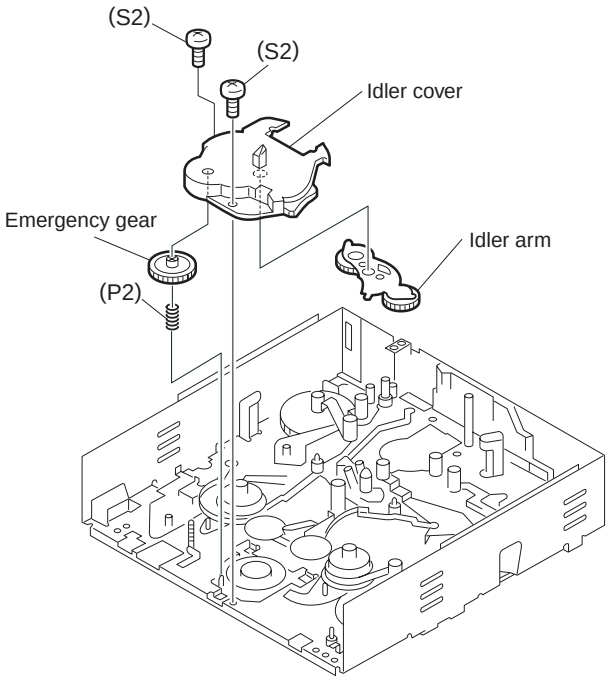


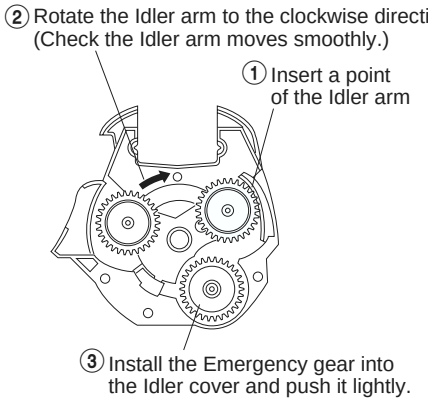

**Fig. 2.6.7**

**<Disassembly>**

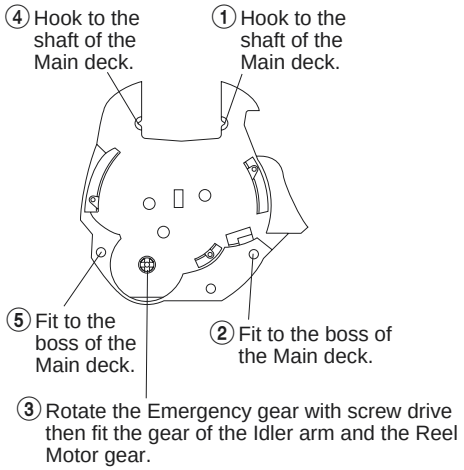
1) Remove the two screws (S2) and remove the idler cover.
2) Remove the idler arm.
3) Remove the emergency gear.
4) Remove the spring (P2).

**<Assembly>**

1) Attach the Idler arm and the Emergency gear into the Idler cover.


② Rotate the Idler arm to the clockwise direction.
(Check the Idler arm moves smoothly.)
① Insert a point
of the Idler arm
③ Install the Emergency gear into
the Idler cover and push it lightly.

2) Attach the Idler arm assembly onto the Main deck.


④ Hook to the
shaft of the
Main deck.
① Hook to the
shaft of the
Main deck.
⑤ Fit to the
boss of the
Main deck.
② Fit to the boss of
the Main deck.
③ Rotate the Emergency gear with screw drive
then fit the gear of the Idler arm and the Reel
Motor gear.

Caution : When install the Idler arm assembly into the main deck, if the gear of the Idler arm and Reel Motor gear does not fit, these geare may damaged.

| No. | Item | Ref. Illustration | Procedure |
|---|---|---|---|

8 ⑫ **Supply tension band assembly/ Supply tension arm assembly**

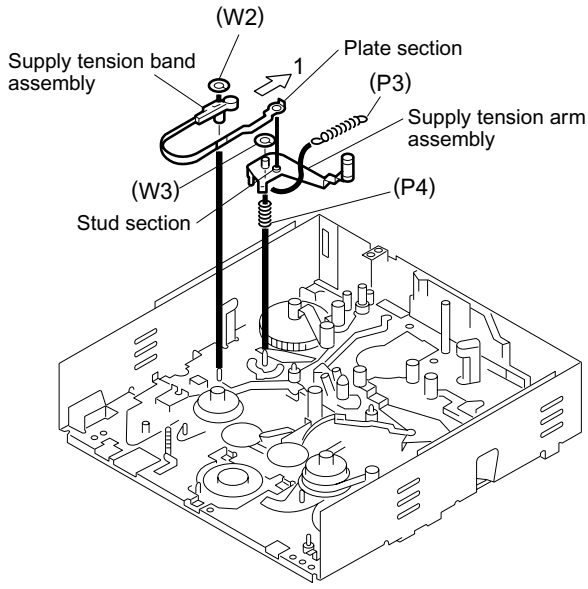



**Fig. 2.6.8 (1)**

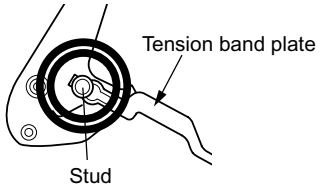



**Fig. 2.6.8 (2)**

**<Disassembly>**

**Supply tension band assembly:**

1) Remove the slit washer (W2).
2) Slide the tension band plate in the direction of arrow 1 and remove the plate from the tension arm stud section.

**Supply tension arm assembly:**

1) Remove the slit washer (W3) and remove the supply tension arm assembly.
2) Unhook the spring (P3) from the tension control arm. (See Fig. 2.6.8 (3))
3) Remove the spring (P4).

**<Assembly>**

1) Reverse the disassembly procedure.

**Notes:**

- **Pinch the tension band plate and tension arm stud together and fix them. Be careful not to bend the plate during the above. (See ◎ in Fig. 2.6.8 (2))**
- **The supply tension arm assembly has undergone perpendicularity management after being assembled, so when replacement is required, it will be necessary to replace the entire mechanism assembly.**

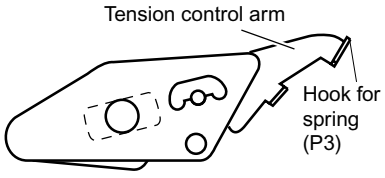



**Fig. 2.6.8 (3)**

**<Supply tension band position adjustment>**

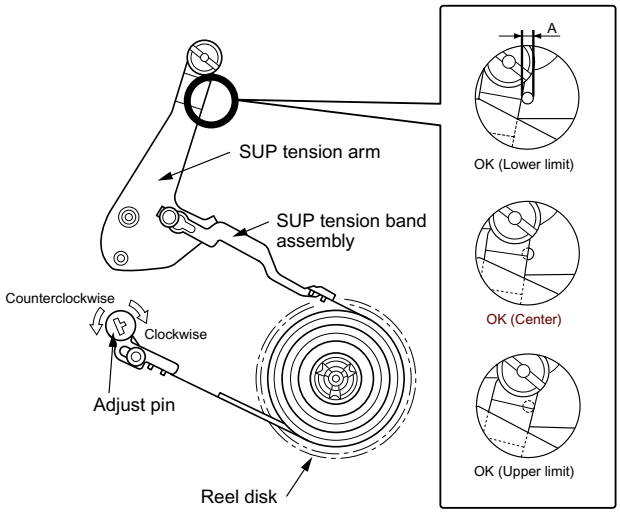



**Fig. 2.6.8 (4)**

1) With the cassette housing removed, place the reel in the mini-cassette position. (See Fig. 2.6.6 (2))
2) Manually rotate the emergency gear of mode motor counterclockwise (See section 2.2.2, "Mode transition".) to perform loading untill the loading end position.
3) Confirm that the right edge of the tension arm is placed within the range of reference hole A on the sub-deck.
4) If the right edge is not within the above range, adjust by turning the adjust pin.

Clockwise rotation : to lower limit
Counterclockwise rotation : to upper limit

**[Loading end position]**

Perform loading until SUP REEL lock and TU REEL lock are completely separated from REEL disks.

| No. | Item | Ref. Illustration | Procedure |
|---|---|---|---|

9 ⑭ **Take-up tension band assembly/ Take-up tension arm assembly**

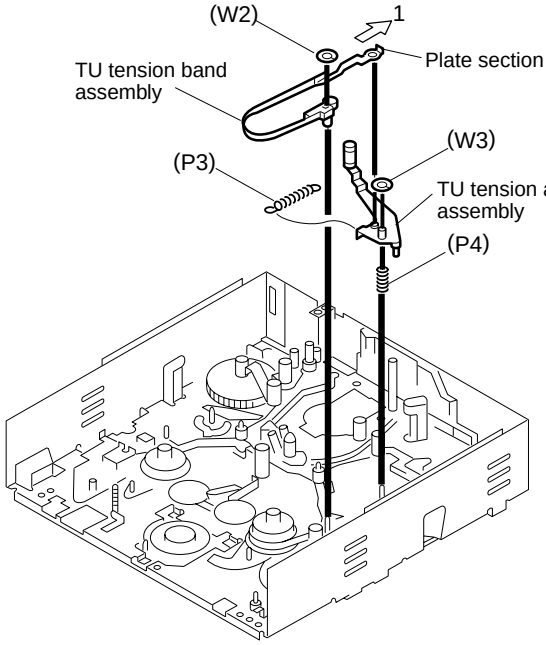



**Fig. 2.6.9 (1)**

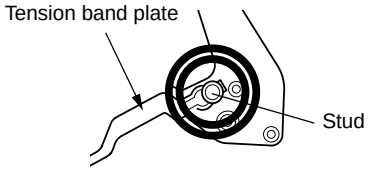



**Fig. 2.6.9 (2)**

**<Disassembly>**

**Take-up tension band assembly:**

1) Remove the slit washer (W2).
2) Slide the plate section of tension band in the direction of arrow 1 and remove the plate from the tension arm stud.

**Take-up tension arm assembly:**

1) Remove the slit washer (W3) and remove the supply tension arm assembly.
2) Unhook the spring (P3) from the tension control arm. (See Fig. 2.6.9 (3))
3) Remove the spring (P4).

**<Assembly>**

1) Reverse the disassembly procedure.

**Notes:**

- **Pinch the tension band plate and tension arm stud together and fix them. Be careful not to bend the plate during the above. (See ◎ in Fig. 2.6.8 (2))**
- **The take-up tension arm assembly has undergone perpendicularity management after being assembled, so when replacement is required, it will be necessary to replace the entire mechanism assembly.**

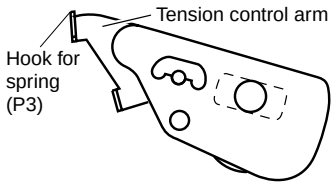



**Fig. 2.6.9 (3)**

**<Take-up tension band position adjustment>**

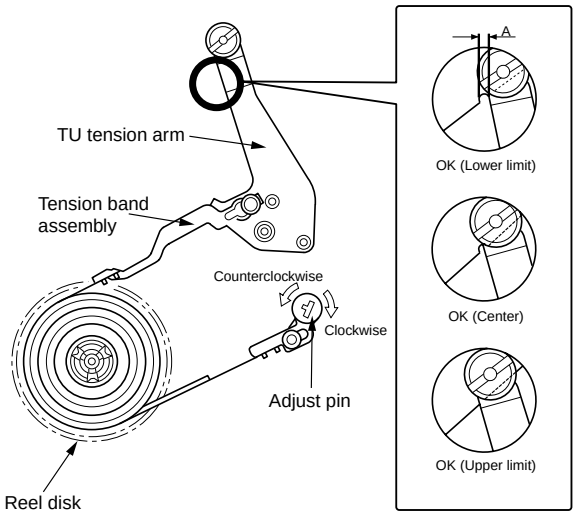


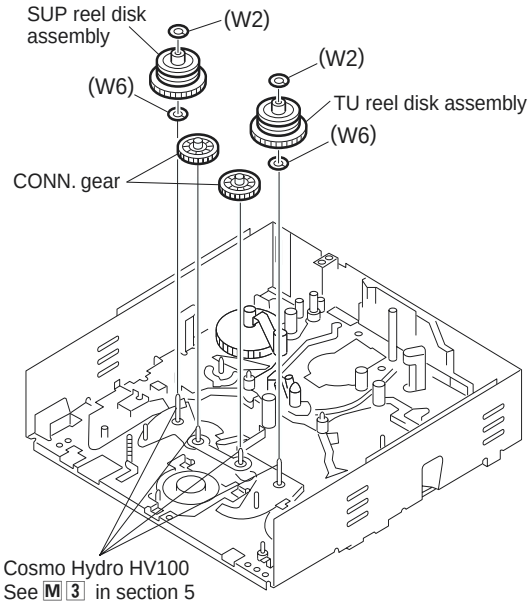
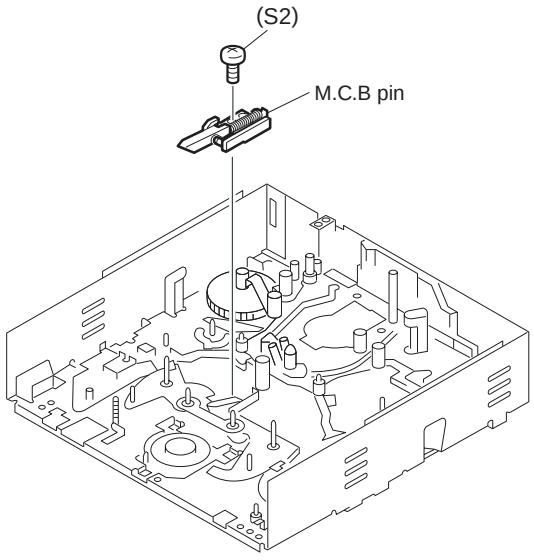

**Fig. 2.6.9 (4)**

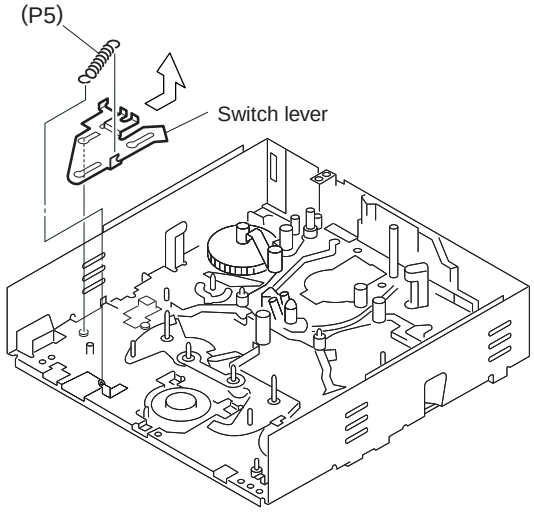
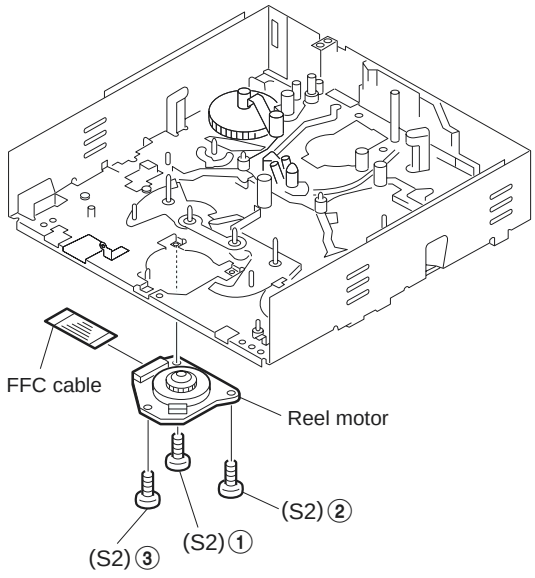
1) With the cassette housing removed, place the reel in the mini-cassette position. (See Fig. 2.6.6 (2))
2) Manually rotate the emergency gear of mode motor counterclockwise (See section 2.2.2, "Mode transition".) to perform loading untill the loading end position.
3) Canfirm that the left edge of the tension arm is placed within the range of notch A on the sub-deck.
4) If the left edge is not within the above range, adjust by turning the adjust pin.

Clockwise rotation : to upper limit
Counterclockwise rotation : to lower limit

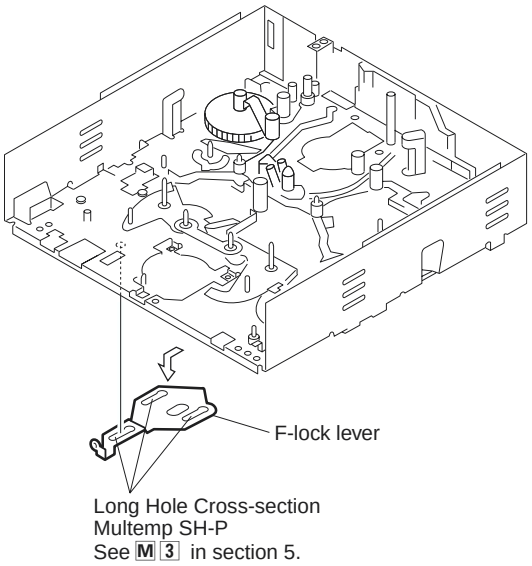
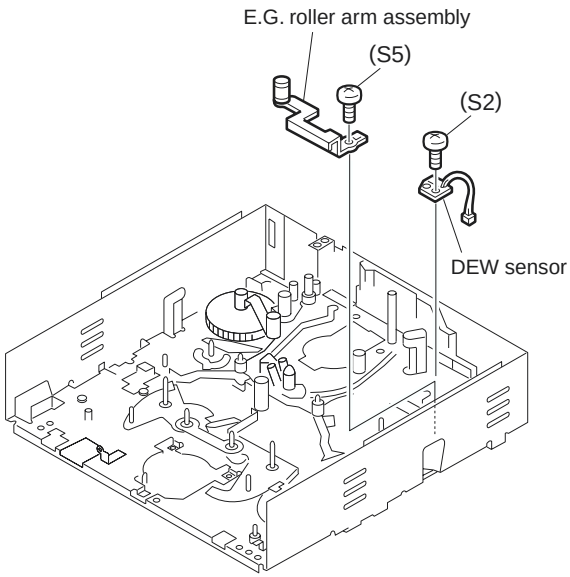
**[Loading end position]**

Perform loading until SUP REEL lock and TU REEL lock are completely separated from REEL disks.

| No. | Item | Ref. Illustration | Procedure |
|---|---|---|---|
| 10 | **⑯ CONN gear assembly/ ⑰ SUP reel disk assembly/ ⑱ TU reel disk assembly**   **Fig. 2.6.10** | **<Disassembly>**<br>**CONN. gear assembly**<br>1) Lift the two CONN gears upward to remove.<br><br>**SUP and TU reel disk assemblies:**<br>1) Remove the two slit washers (W2) and lift the SUP and TU reel disk assemblies separately to remove each assembly.<br>2) Lift the two washers (W6) to remove.<br><br>**<Assembly>**<br>1) Reverse the disassembly procedure. |
| 11 | **M.C.B pin**   **Fig. 2.6.11** | **<Disassembly>**<br>1) Remove the screw (S2) and remove the M.C.B pin.<br><br>**<Assembly>**<br>1) Reverse the disassembly procedure. |

| No. | Item | Ref. Illustration | Procedure |
|---|---|---|---|
| 12 | **Switch lever**   **Fig. 2.6.12** | | **<Disassembly>**<br>1) Unhook the spring (P5).<br>2) Slide the switch lever in the direction of the arrow and then lift it upward to remove.<br><br>**<Assembly>**<br>1) Reverse the disassembly procedure. |
| 13 | ㉑ **Reel motor**   **Fig. 2.6.13** | | **<Disassembly>**<br>1) Remove the FFC from the mechanism circuit board CN124.<br>2) Remove the three screws (S2) and remove the reel motor.<br><br>**<Assembly>**<br>1) Reverse the disassembly procedure.<br>2) Tighten the three screws (S2) in the order of ① - ③.<br><br>**Note:**<br>**Be sure to have the FFC cable installed on the reel motor side before attaching.** |

| No. | Item | Ref. Illustration | Procedure |
|---|---|---|---|

| | | |
|---|---|---|
| 14 | **F-lock lever**<br>  <br><br>**Fig. 2.6.14** | **<Disassembly>**<br>1) Slide the F-lock lever in the direction of the arrow to remove.<br><br>**<Assembly>**<br>1) Reverse the disassembly procedure. |
| 15 | **Dew sensor/ E.G. roller arm assembly**<br>  <br><br>**Fig. 2.6.15** | **<Disassembly>**<br>**Dew sensor:**<br>1) Remove the screw (S5) and remove the DEW sensor.<br><br>**E.G. roller arm assembly:**<br>1) Remove the screw (S2) and remove the E.G. roller arm assembly.<br><br>**<Assembly>**<br>1) Reverse the disassembly procedure.<br><br>**Note:**<br>**The E.G. roller arm assembly has undergone perpendicularity management after being assembled, so when replacement is required, it will be necessary to replace the entire mechanism assembly.** |

| No. | Item | Ref. Illustration | Procedure |
|---|---|---|---|

16 **Sub-deck/ ㉖ Pinch plate/ ㉗ Capstan motor**

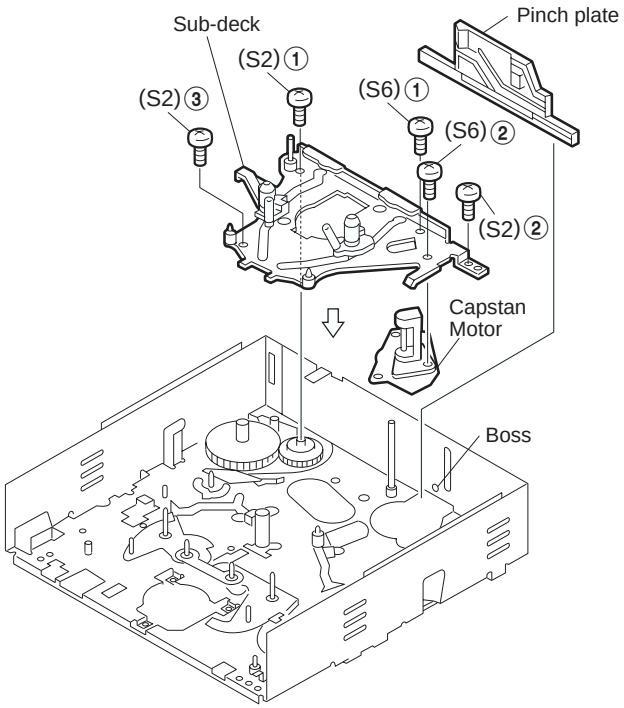



**Fig. 2.6.16 (1)**

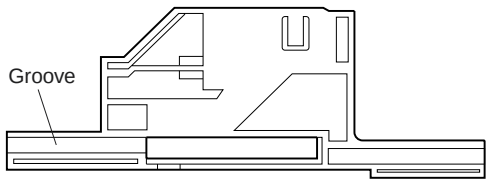



**Fig. 2.6.16 (2)**

**<Disassembly>**

**Sub-deck/pin plate:**

1) Remove the three screws (S2) and slide the sub-deck in the direction of arrow then remove it. The pinch plate also detaches at this time.

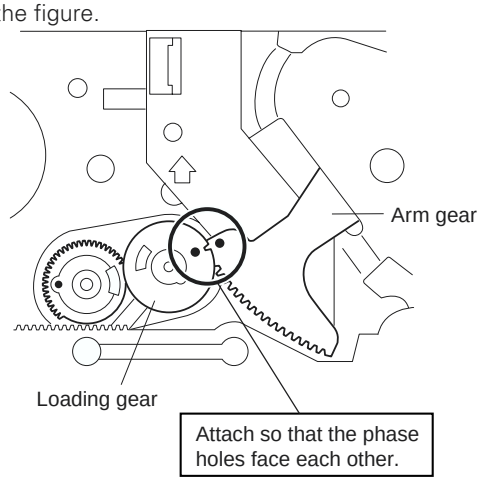
**Capstan motor:**

1) Remove the two screws (S6) and remove the capstan motor.

**<Assembly>**

**Do this procedure in the unloading end position.**

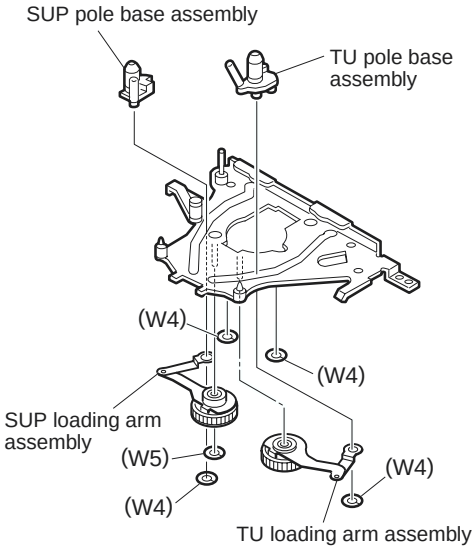
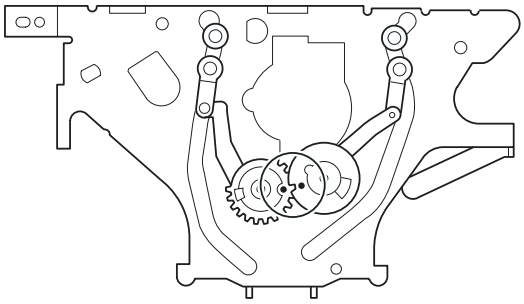
1) Fit the groove on the rear of the pinch plate into the boss on the main deck.
2) Reverse the disassembly procedure.
3) Attach the loading gear and arm gear so that the phase relationship between them is as shown in the figure.



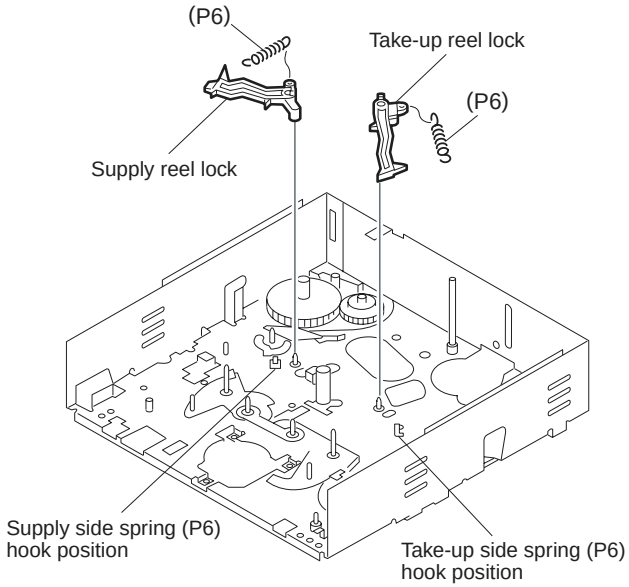
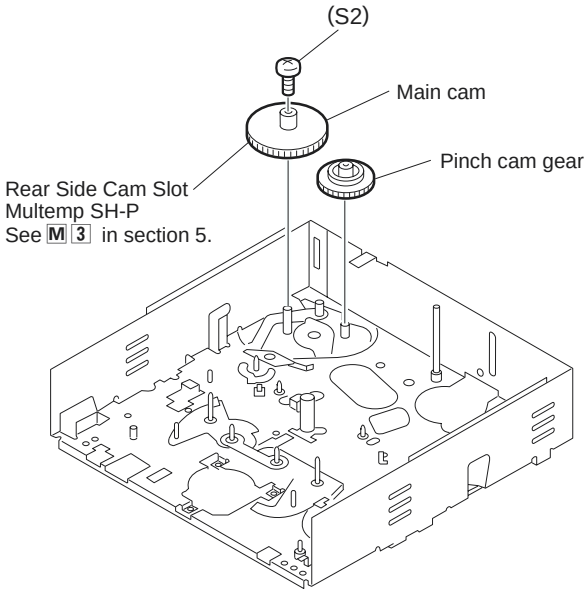
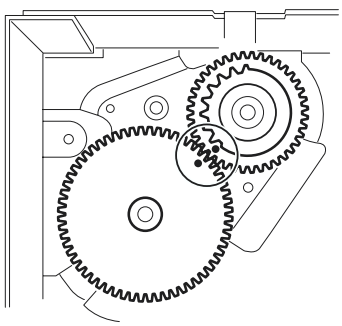

**— Unloading End Position —**

**Notes:**

- **Tighten the screws (S2) of the sub deck in the order of ① - ③.**
- **The sub deck assembly has undergone perpendicularity management after being assembled, so when replacement is required, it will be necessary to replace the entire mechanism assembly.**
- **Capstan motor screws (S6) should be tightened in the order of ① - ② and using a securing torque of 0.20 N·m (2 kgf·cm).**

| No. | Item | Ref. Illustration | Procedure |
|---|---|---|---|
| 17 | ㉘ **Supply pole base assembly/** ㉙ **Take-up pole base assembly** |  **Fig. 2.6.17** | **<Disassembly>**<br><br>**Do this procedure in the loading end position.**<br><br>**Supply pole base assembly:**<br>1) Remove the two slit washers (W4) and remove the supply pole base assembly.<br><br>**Take-up pole base assembly:**<br>1) Remove the two slit washers (W4) and remove the take-up pole base assembly.<br><br>**<Assembly>**<br>1) Reverse the disassembly procedure. |
| 18 | **Supply loading arm assembly/ Take-up loading arm assembly** |  **Fig. 2.6.18 Sub Deck Bottom Side** | **<Disassembly>**<br><br>**Do this procedure in the loading end position.**<br><br>**Take-up loading arm assembly:**<br>1) Remove the slit washer (W5) and remove the take-up loading arm assembly.<br><br>**Supply loading arm assembly:**<br>1) After removing the take-up loading arm assembly, remove the supply loading arm assembly.<br><br>**<Assembly>**<br>1) Reverse the disassembly procedure.<br>2) Attach so that the gear holes on the assemblies face each other. |

| No. | Item | Ref. Illustration | Procedure |
|---|---|---|---|

| | | |
|---|---|---|
| 19 | **Supply reel lock/ Take-up reel lock**<br>  <br><br>**Fig. 2.6.19** | **<Disassembly>**<br>**Supply reel lock:**<br>1) Unhook the spring (P6) and lift the supply reel lock upward to remove.<br><br>**Take-up reel lock:**<br>1) Unhook the spring (P6) and lift the take-up reel lock upward to remove.<br><br>**<Assembly>**<br>1) Reverse the disassembly procedure. |
| 20 | **㉞ Pinch cam gear/ ㉟ Main cam**<br>  <br><br>**Fig. 2.6.20 (1)** | **<Disassembly>**<br>**Pinch cam gear:**<br>1) Lift the pinch cam gear upward to remove.<br><br>**Main cam:**<br>1) Remove the screw (S2) and remove the main cam.<br><br>**<Assembly>**<br>1) Reverse the disassembly procedure.<br>2) Attach the main cam and pinch cam gear so that their phase relationship is as shown in the figure.<br><br>  <br>**Fig. 2.6.20 (2)** |

| No. | Item | Ref. Illustration | Procedure |
|---|---|---|---|

**21** ㊱ **Arm gear/** ㊲ **Control arm**

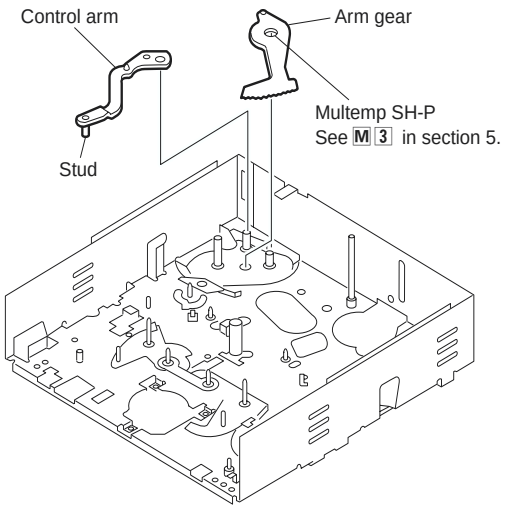



**Fig. 2.6.21 (1)**

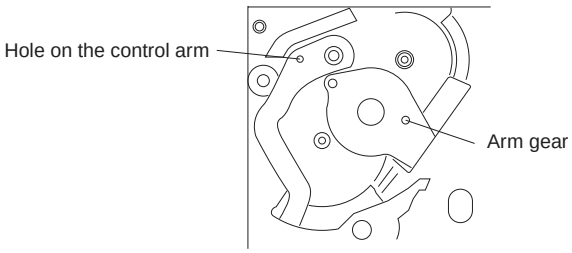



**Fig. 2.6.21 (3)**

**<Disassembly>**

**Arm gear:**

1) Remove the main cam as described in No. 20 and remove the arm gear.

**Control arm:**

1) Place the main deck upside down.
2) Bend the control plate slightly, disengage the control arm's stud from the groove on the plate and remove the control arm. (Refer to Fig. 2.6.21(2))

**<Assembly>**

1) Reverse the disassembly procedure.
2) Align the hole on the control arm withy that on the main deck.
3) Align the hole on the arm gear with that on the main deck.

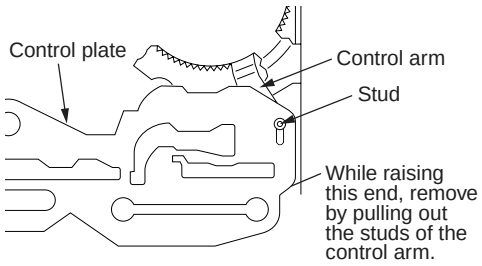



**Fig. 2.6.21 (2)**

**22** ㊳ **Control plate/ Mode sensor gear**

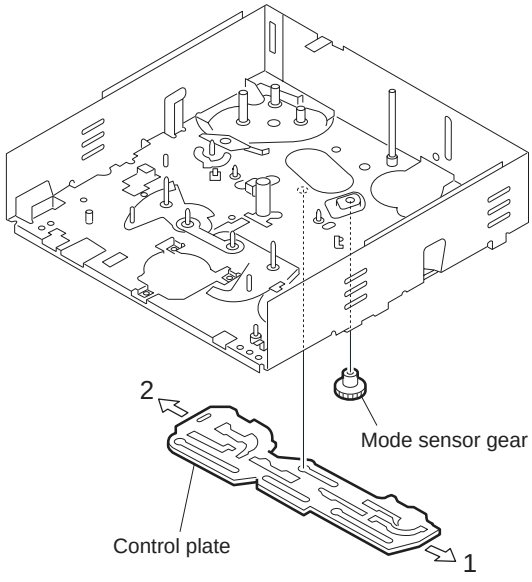



**Fig. 2.6.22 (1)**

**<Disassembly>**

**Control plate:**

1) Place the main deck upside down.
2) Slide the control plate in the direction of the arrow 1 to remove.

**Mode sensor gear:**

1) Remove the mode sensor gear as if pulling it out.

**<Assembly>**

1) Attach the control plate.
2) Slide the control plate in the direction of the arrow 2.
3) Attach the mode sensor gear so that the hole on it is aligned with that on the control plate.

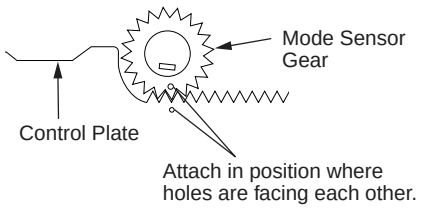
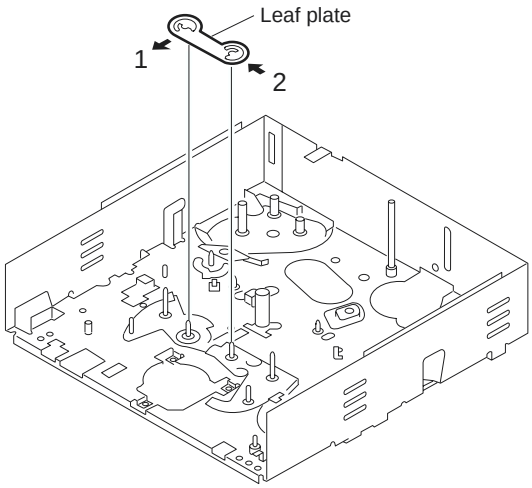
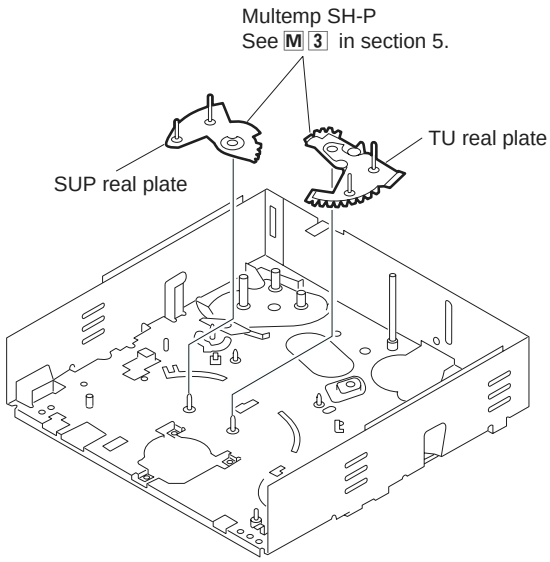
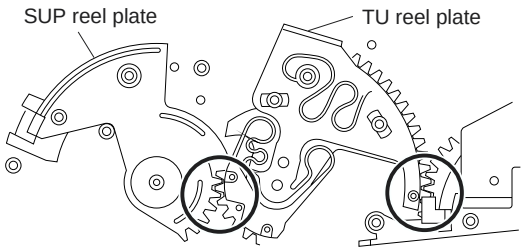
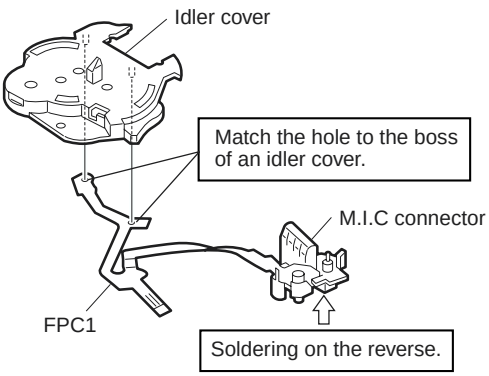
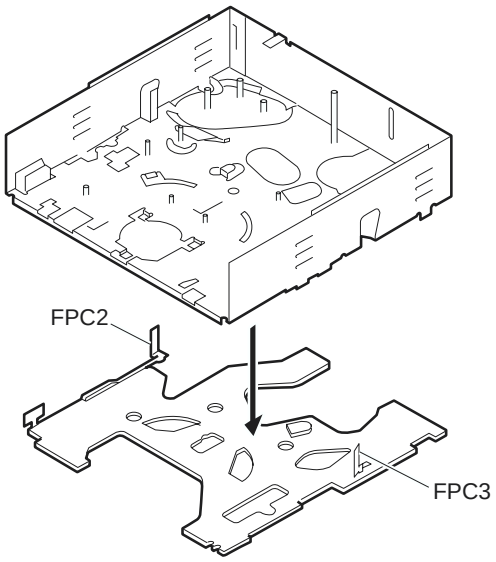
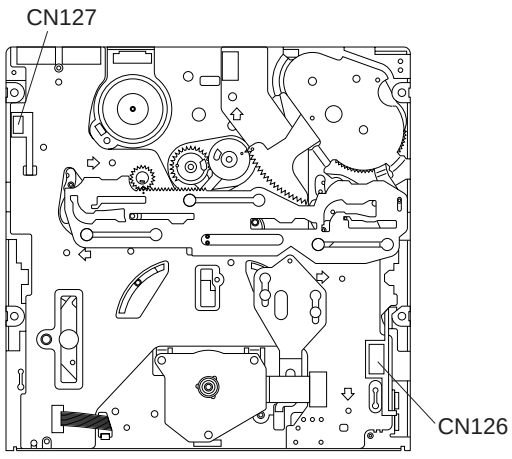



**Fig. 2.6.22 (2)**

| No. | Item | Ref. Illustration | Procedure |
|---|---|---|---|

| | | |
|---|---|---|
| 23 | **Leaf plate**<br>  <br><br>**Fig. 2.6.23** | **<Disassembly>**<br>1) Push the supply side of the leaf plate in the direction of arrow 1 to release the lock.<br>2) Push the take-up side of the leaf plate in the direction of arrow 2 to release the lock. Now the leaf plate can be removed.<br><br>**<Assembly>**<br>1) Reverse the disassembly procedure.<br><br>**Note:**<br>**Be careful not to deform the leaf plate during removing or attaching.** |
| 24 | **㊶ Supply reel plate/ ㊷ Tale-up reel plate**<br>  <br><br>**Fig. 2.6.24 (1)** | **<Disassembly>**<br>**Supply reel plate:**<br>1) Slide the reel change plate toward the mini-cassette position. (Stop sliding before it is locked completely.) (See Fig. 2.6.6 (2))<br>2) Lift the right side of the supply reel plate (gear side) and turn it slightly to remove.<br><br>**Take-up reel plate:**<br>1) Lift the left side of the take-up reel plate and turn it slightly to remove.<br><br>**<Assembly>**<br>1) Reverse the disassembly procedure.<br><br>**Notes:**<br>**Take-up reel plate attaching position**<br>Attach the take-up reel plate so that the gear cogs on its inner right side are meshed with those on the left end of the reel plate drive gear.<br>**Supply reel plate attaching position**<br>Attach the supply reel plate so that the gear cogs on its inner right side are meshed with those on the left end of the supply reel plate.<br>  <br><br>**Fig. 2.6.24 (2)** |

| No. | Item | Ref. Illustration | Procedure |
|---|---|---|---|

| | | |
|---|---|---|
| 25 | ㊸ **FPC1 assembly**<br>  <br><br>**Fig. 2.6.25** | **<Disassembly>**<br>1) Remove the M.I.C connector and idler arm assembly as described in section 2.6.7.<br>2) Remove solder from the M.I.C connector (6 positions).<br>3) Remove the FPC1 assembly by performing the same operation as peeling adhesive tape off for the idler cover section.<br><br>**<Assembly>**<br>1) Reverse the disassembly procedure.<br><br>**Note:**<br>**Do not reuse the removed FPC1 assembly.** |
| 26 | **FPC2 assembly/ FPC3 assembly**<br>  <br><br>**Fig. 2.6.26 (1)** | **<Disassembly>**<br>**FPC2 assembly:**<br>1) Remove solder from CN126 on the mechanism board.<br>2) Remove the FPC2 assembly as if peeling adhesive tape off.<br><br>**FPC3 assembly:**<br>1) Remove solder from CN127 on the mechanism board.<br>2) Remove the FPC3 assembly as if peeling adhesive tape off.<br><br>**<Assembly>**<br>1) Reverse the disassembly procedure.<br><br>**Note:**<br>**Do not reuse the removed FPC1 and FPC2 assemblies.**<br>  <br><br>**Fig. 2.6.26 (2)** |

| No. | Item | Ref. Illustration | Procedure |
|---|---|---|---|

27 **Cassette LED/ LED holder/ MECHA board assembly**

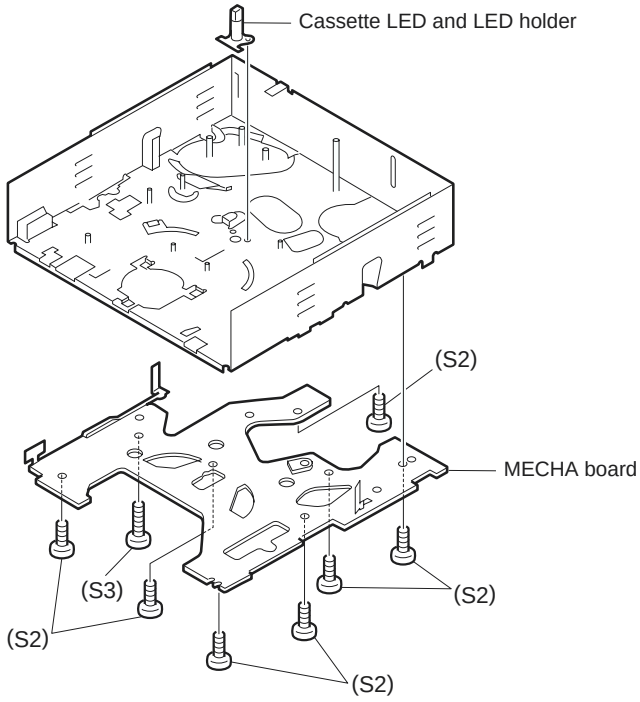



**Fig. 2.6.27 (1)**

**<Disassembly>**

**Cassette LED:**

1) Remove solder from LD1 on the mechanism board and remove the cassette LED.

**LED holder:**

1) While pushing the three claws locking the LED holder, remove it.

**MECHA board assembly:**

1) Remove the seven screws (S2) and a screw (S3), then remove the MECHA board assembly.

**<Assembly>**

1) Reverse the disassembly procedure.
2) Tighten the eight screws of the mechanism board assembly in the order shown in the illustration.

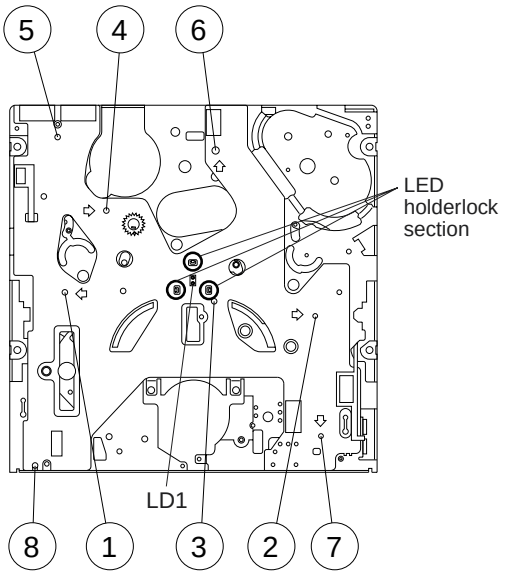


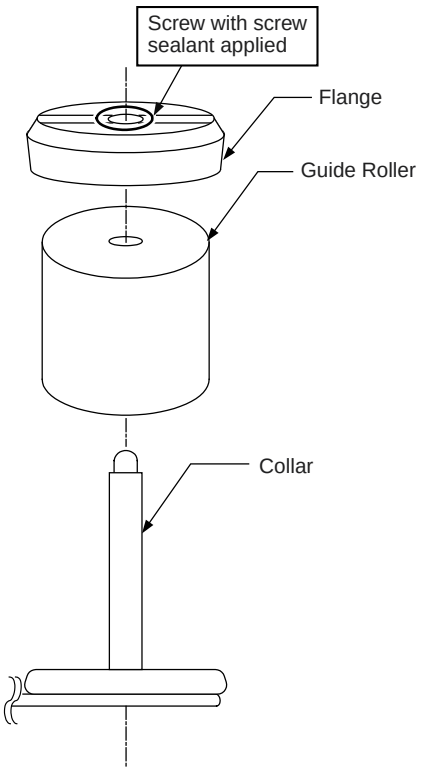

**Fig. 2.6.27 (2) — Mechanism unit bottom side —**

**Note:**
**Makce sure the three claws locking of the LCD holder does not loosen.**

| No. | Item | Ref. Illustration | Procedure |
|---|---|---|---|

## 2.7 GUIDE ROLLER REPLACEMENT METHOD

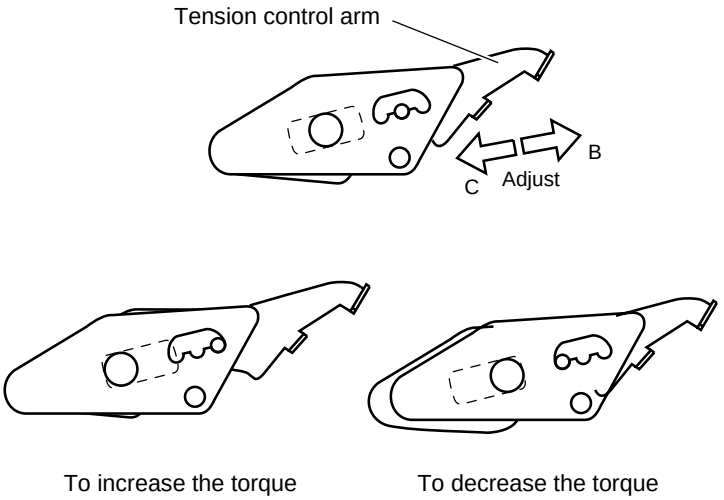
Since the SUP/TU tension arm assembly, sub deck assembly (ENT, G, roller section), and E.G.R. arm, have all undergone perpendicularity management after being assembled respectively, assembly replacement of these is not possible.
For maintenance, only the guide roller can be replaced.

| No. | Item | Ref. Illustration | Procedure |
|---|---|---|---|
| 1 | Ⓓ **Guide roller replacement procedure for SUP/TU tension arm assembly and ENT.G. roller/E.G. roller arm assembly** |  **Fig. 2.7.1** | **<Removing>**<br>1) Remove the flange on the upper part of the guide roller as you would remove a screw.<br>2) Pull the guide roller upward and remove it.<br>3) Pull the collar upward and remove it.<br><br>**<Installing>**<br>1) Proceed in the reverse order as when removing.<br>2) When fixing the flange in place, first tighten by hand until it stops, then tighten further using a securing torque of 0.04 N/m (0.4 kgf/cm).<br>3) After fixing in place, apply screw sealant to the screw on the upper end of the flange.<br><br>**Note:**<br>**When applying additional tightening force, avoid excessive force that may cause distortion of the arm section.** |

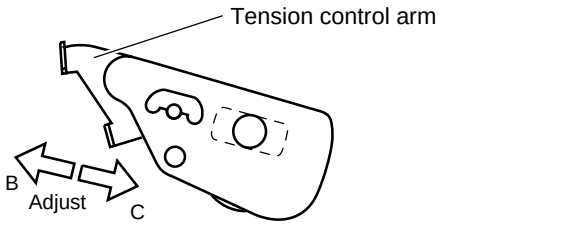
| No. | Item | Measuring instruments & Input signals | Mode | Measuring point (◎)<br>Adjustment parts (⇧)<br>Adjustment level ( ☆ ) | Adjustment procedure |
|---|---|---|---|---|---|

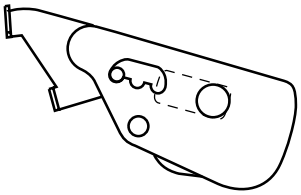
## 2.8 TORQUE ADJUSTMENT

| | | | | | |
|---|---|---|---|---|---|
| 1 | Supply back torque adjustment | Cassette torque meter VFK1843 | Play | ◎ Supply side reading of cassette torque meter<br>☆ 6.5 $^{+1.0}_{-0.5}$ x $10^{-4}$ N·m | 1) Insert the torque cassette meter VFK1843 and press the [PLAY] button.<br>2) Confirm that the SUP back torque value is within the specified range. (If the reading varies, read the center value.)<br>3) If the reading is out of specification, eject the cassette and adjust by moving the tension control arm.<br>* To increase the torque → Move in direction B<br>* To decrease the torque → Move in direction C.<br>4) Perform steps 1) and 2) above again and confirm that the SUP back torque value is within the specified range.<br><br>If it is out of specification, check the <Supply tension band position adjustment> in 2.6.8 (4). |
| 2 | Take-up wind torque adjustment | Cassette torque meter VFK1843 | PLAY, Adjustment menu No. 119 | ◎ Take-up side reading of cassette torque meter<br>☆ 11.5 $^{+1.0}_{-0.5}$ x $10^{-4}$ N·m | 1) Select adjustment menu [119. FWD TORQUE]. **(For the adjustment menu, see 3.1.5, "Adjustment menu".)**<br>2) Insert the torque cassette meter VFK1843 and press the [PLAY] button.<br>3) Adjust the TU wind torque so that it is within the specified range.<br>* Press SET (PAUSE) to enter the adjustment mode.<br>* To increase the torque → Press ▲ (PLAY).<br>* To decrease the torque → Press ▼ (STOP).<br>4) After adjustment, press SET (PAUSE) to store the adjustment data. |

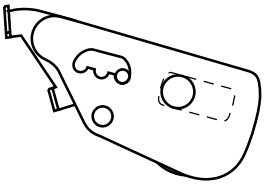


| No. | Item | Measuring instruments & Input signals | Mode | Measuring point (◎)<br>Adjustment parts (↑)<br>Adjustment level ( ☆ ) | Adjustment procedure |
|---|---|---|---|---|---|
| 3 | Take-up back torque adjustment | Cassette torque meter VFK1844 | REV x 1 | ◎ Take-up side reading of cassette torque meter<br>☆ $6.5^{+1.0}_{-0.5}$ x $10^{-4}$ N·m | 1) Insert the torque cassette meter VFK1844 and enter REV x1 mode.<br>2) Confirm that the TU back torque value is within the specified range. (If the reading varies, read the center value.)<br>3) If the reading is out of specification, eject the cassette and adjust by moving the tension control arm.<br>* To increase the torque → Move in direction B<br>* To decrease the torque → Move in direction C.<br>4) Perform steps 1) and 2) above again and confirm that the TU back torque value is within the specified range.<br><br>If it is out of specification, check the <Take-up tension band position adjustment> in 2.6.9 (4). |
| 4 | SUP wind torque CHECK | Cassette torque meter VFK1844 | REV x 1 | ◎ Supply side reading of cassette torque meter<br>☆ $11.5^{+1.5}_{-1.0}$ x $10^{-4}$ N·m | 1) Insert the torque cassette meter VFK1844 and enter REV x1 mode.<br>2) Confirm that the SUP wind torque is within the specified range.<br><br>If it is out of specification, check the assembly condition of the reel drive parts. |



To increase the back torque



To decrease the back torque

## 2.9 INTERCHANGEABILITY ADJUSTMENT

### 2.9.1 Interchangeabilty adjustment flow chart

Fig. 2-9-1 shows the flow chart of compatibility adjustment.

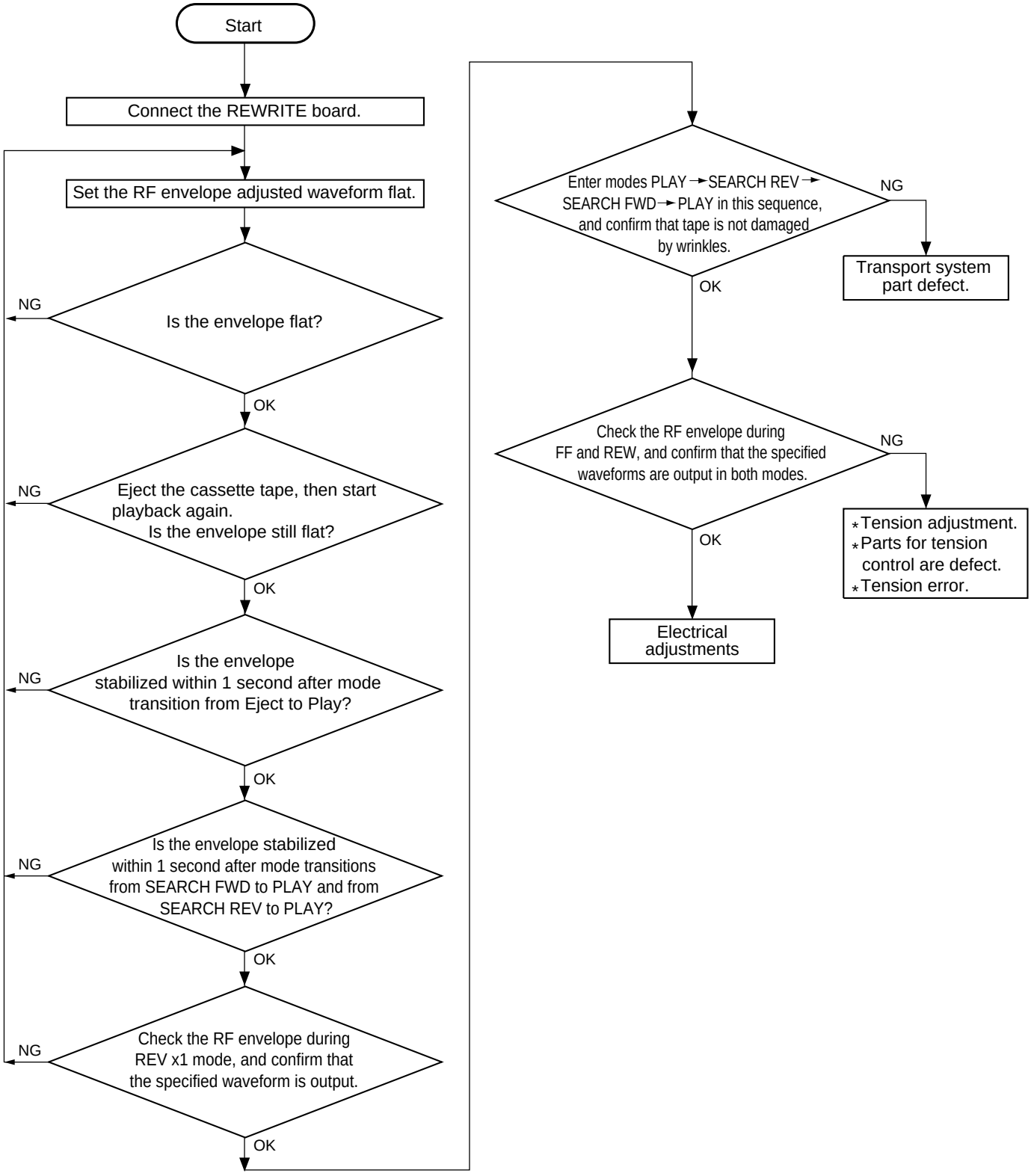

Start
Connect the REWRITE board.
Set the RF envelope adjusted waveform flat.
Is the envelope flat?
NG
OK
Eject the cassette tape, then start playback again. Is the envelope still flat?
NG
OK
Is the envelope stabilized within 1 second after mode transition from Eject to Play?
NG
OK
Is the envelope stabilized within 1 second after mode transitions from SEARCH FWD to PLAY and from SEARCH REV to PLAY?
NG
OK
Check the RF envelope during REV x1 mode, and confirm that the specified waveform is output.
NG
OK
Enter modes PLAY → SEARCH REV → SEARCH FWD → PLAY in this sequence, and confirm that tape is not damaged by wrinkles.
NG
OK
Transport system part defect.
Check the RF envelope during FF and REW, and confirm that the specified waveforms are output in both modes.
NG
OK
* Tension adjustment.
* Parts for tension control are defect.
* Tension error.
Electrical adjustments

**Fig. 2-9-1**

### 2.9.2 Tape Transport Restriction

The unit uses only the SUP guide roller and TU guide roller to restrict the tape transport. The tape is free (no restriction) from other parts.

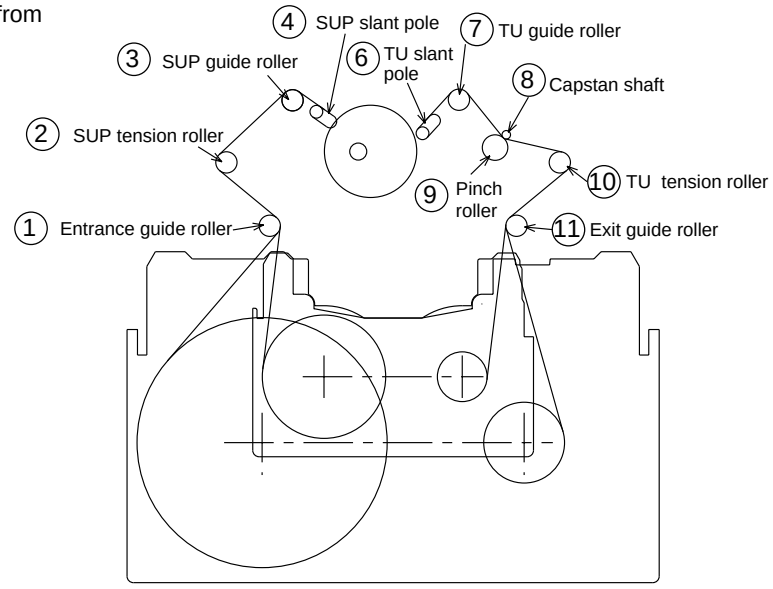



**Fig. 2.9.2**

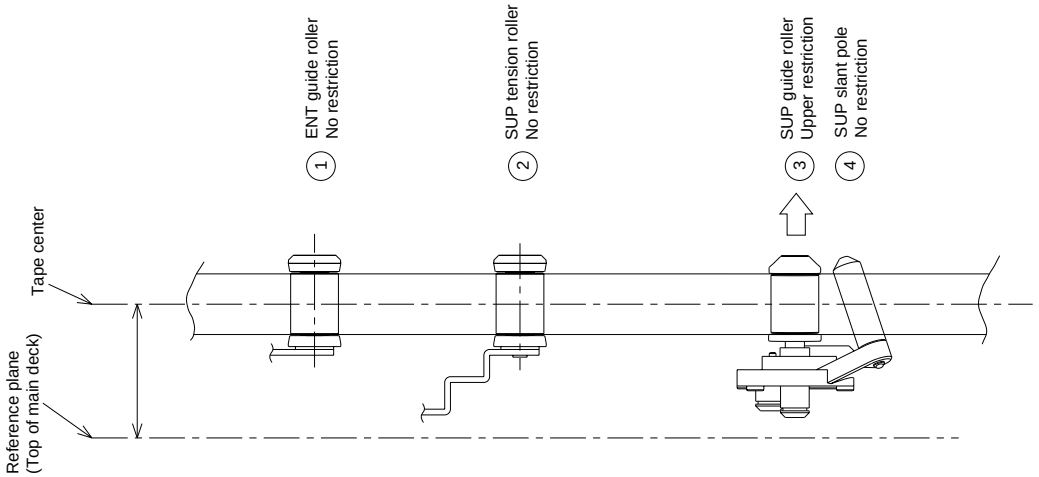



**Fig. 2.9.3 Tape Restriction on Supply Side**

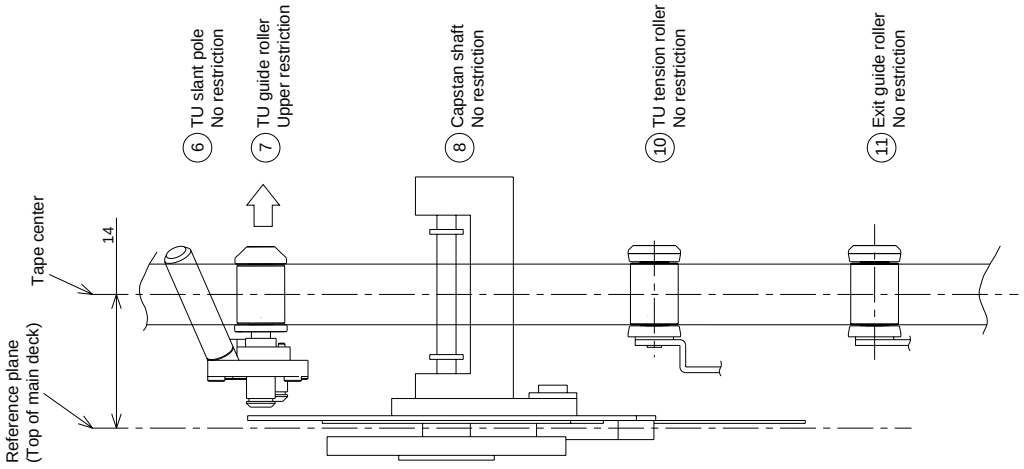



**Fig. 2.9.4 Tape Restriction on Take-up Side**

| No. | Item | Measuring instruments & Input signals | Mode | Measuring point (◎)<br>Adjustment parts (⇧)<br>Adjustment level ( ☆ ) | Adjustment procedure |
|---|---|---|---|---|---|

### 2.9.3 Interchangeability adjustment

| | | | | | |
|---|---|---|---|---|---|
| 1 | Preparation | | | | (1) Connect a REWRITE board to the CN4004 on the MAIN board.<br>Refer to preparation of "3.2 DVC UNITS ADJUSTMENTS" for more details.<br>**Note:**<br>**Be sure to clean the tape transport parts and play a cleaning tape before proceeding to the compatibility adjustment.** |
| 2 | RF envelope adjustment | • Oscilloscope, alignment tape VFK1842 Color bar portion | Play | ◎ TP9 ENV OUT [REWRITE board]<br>◎ TP5 HID [REWRITE board]<br>⇧ Supply guide roller<br>⇧ Take-up guide roller<br>☆ Make the waveforms flat. The drop level should be less than 3 dB at both SUP and TU sides.<br>☆ Flatness and variation should be less than 2 dB. | (1) Play alignment tape color bar portion.<br>(2) Observe the measuring points and adjust the supply guide roller and take-up guide roller so that the RF envelope is flat.<br>(3) Set the mode to EJECT, then set to the PLAY mode and confirm that the RF envelope is flat. |

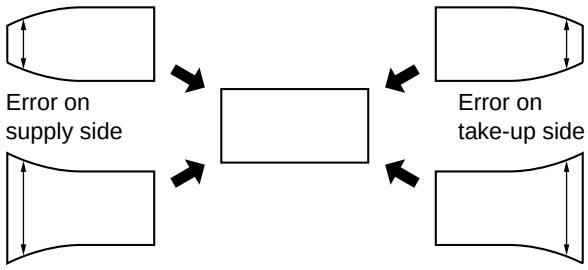



**Fig. 2.9.5**

| No. | Item | Measuring instruments & Input signals | Mode | Measuring point (◎)<br>Adjustment parts (Ⓣ)<br>Adjustment level ( ☆ ) | Adjustment procedure |
|---|---|---|---|---|---|
| 3 | Waveform rise check | • Oscilloscope, alignment tape VFK1842 Color bar portion | Eject → Play<br>Search FWD → Play<br>Search REV → Play | ◎ TP9 ENV OUT [REWRITE board]<br>◎ TP5 HID [REWRITE board]<br>☆ The envelope waveform should be stabilized within 1 sec. | (1) Switch the mode from Eject → Play and confirm that the envelope is stabilized in less than 1 sec.<br>(2) Switch the mode from Search FWD → Play and from Search REV → Play, and confirm that the envelope is stabilized in less than 1 sec. in both cases.<br>(3) If the envelope does not stabilized in the specified period, fine-adjust the supply/take-up guide rollers as far as the envelope waveform specification is satisfied, then restart checking from the above procedure (1) again. |
| 4 | Damage check | • Self-recorded/ played tape 60 ME 270ME | Play<br>↓<br>Search REV<br>↓<br>Search FWD<br>↓<br>Play | ◎ TP9 ENV OUT [REWRITE board]<br>◎ TP5 HID [REWRITE board]<br>☆ The tape should not be damaged by wrinkle. | (1) Transport the self-recorded/played Mini cassette tape from the beginning by changing modes in order of Play → Search REV → Search FWD → Play, and confirm that wrinkles due to strong restriction by the guide rollers and guide pole are not produced on tape.<br>(2) Perform the same check at the section near the end of tape.<br>(3) Confirm that no tape damage occurs when a tape is being loaded, unloaded or ejected.<br>(4) Perform the same procedures (1) — (3) with a standard cassette. |
| 5 | Envelope check during FF/REW | • Oscilloscope, alignment tape VFK1842 Color bar portion | FF<br>REW | ◎ TP9 ENV OUT [REWRITE board]<br>◎ TP5 HID [REWRITE board]<br>☆ A < 55µsec.<br>☆ B ≧ T/3 | **This checking should be done after completing 3-2-1. PB switching point adjustment.**<br>(1) Insert the alignment tape and enter Stop mode.<br>(2) Enter FF mode.<br>(3) Confirm that the envelope output is present at 55 µs before the HID switching timing.<br>(4) Check the take-up side of the envelope to see that the MAX output duration is more than 1/3 the HID duration.<br>(5) Enter REV mode and check the same items as (3) and (4) above.<br>(6) If the envelope is out of specification, check the tension band and main brake assembly and replace if needed. Confirm the playback switching point. |

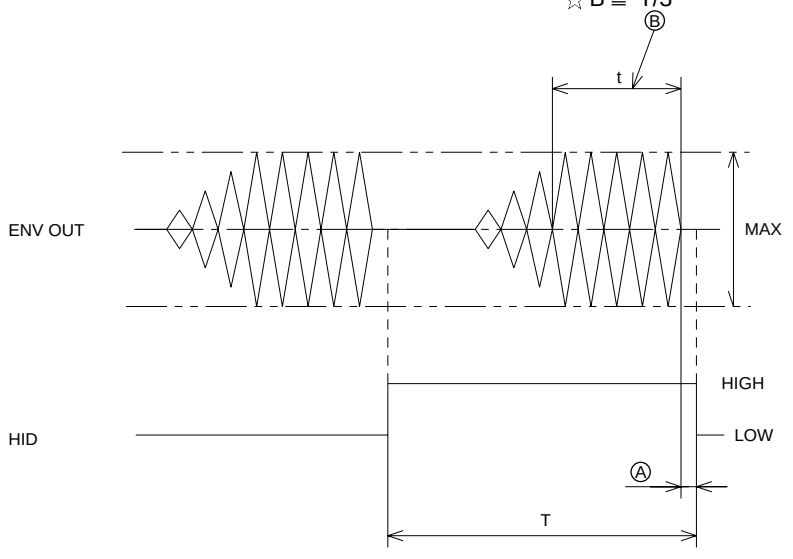



**Fig. 2.9.6**

# SECTION 3

# ELECTRICAL ADJUSTMENTS

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# SECTION 3
# ELECTRICAL ADJUSTMENTS

## 3.1 PRECAUTIONS FOR ELECTRICAL ADJUSTMENTS

Electrical adjustments should be performed only when they are required, for example, during maintenance. Electrical adjustments that are possible only after mechanism adjustments should be performed after completing these. Before proceeding to perform electrical adjustments, be sure to warm up the unit for at least 10 minutes after turning it on.
Use the 10:1 probe with the oscilloscope unless otherwise specified.

### 3.1.1 Measuring instruments and Tools required for adjustments

(1) Measuring instruments
- Oscilloscope: 2-trace, 100 MHz or more.
- NTSC/PAL waveform monitor (WFM)
- NTSC/PAL Composite and Y/C video signal generator
- Frequency counter: 10 MHz or more, resolution 100 mV or less.
- Monitor TV

(2) Tools

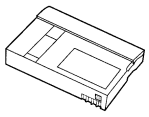
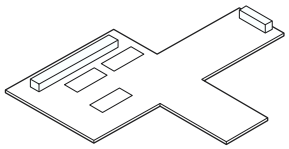
| | |
|---|---|
| 1 | Alignment tape |
| VFK1842 |  |
| 2 | Rewrite board (Jig connector) |
| VFK1846 |  |

**Table 3-1-1**

### 3.1.2 Alignment tape specifications

**VFK1842**

| No. | Video signal | Audio signal | Time (min.) | Applications |
|---|---|---|---|---|
| 1 | Moving image | Moving image audio | 10 | Block noise check |
| 2 | Color bars | 1 kHz | 10 | •Interchangeability adjustment<br>•Video/audio play circuit check/adjustment |

**Table 3-1-2**

### 3.1.3 Signals required for adjustments

NTSC and PAL color bar signals are required on "3.3 VIDEO SYSTEM ADJUTMENT".

NTSC:
100% color bars (100, 0, 100, 0) (Without SETUP)
100% color bars (100, 7.5, 100, 7.5) (With SETUP)
PAL:
100% color bars (100, 0, 100, 0) (PAL does not use SETUP.)

(1) Composite 100% color bars

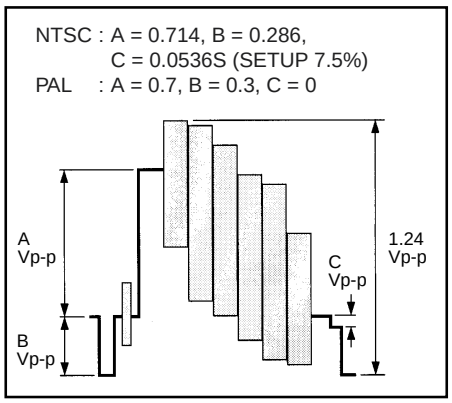
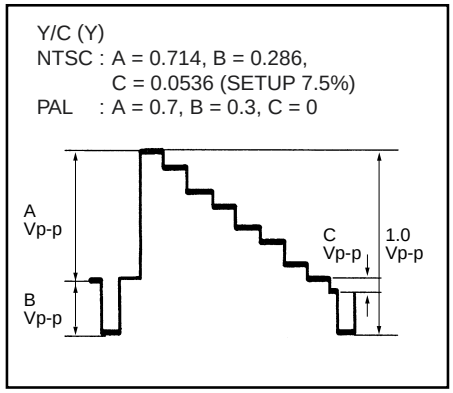



**Fig. 3.1.3 (1)**

(2) Y/C 100% color bars



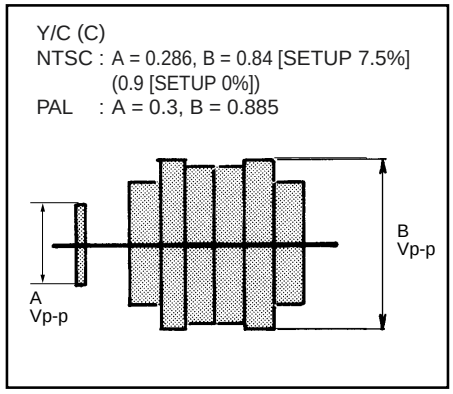




**Fig. 3.1.3 (2)**

### 3.1.4 Notes for adjustments

Since the AG-DV2500 is compatible with the recording and playback of the NTSC and PAL signals, it is required that both NTSC and PAL be adjusted.
The NTSC and PAL signals use different Y signal V/S ratios and color levels. Be sure to use the specified signals for the adjustments.

Both the NTSC and PAL signals use a variety of signals differing in the Y levels and color levels, etc. Also note that the NTSC signals include signals both with and without the Setup component.

The AG-DV2500 is provided with input and output level adjustment capabilities only. If a signal of the specified level for color and setup is not available, read the following for the substitution.

(1) Y level adjustments (Both of NTSC and PAL)
If the available Y signal contains a white level of 100 IRE (PAL: 0.7 Vp-p), the signal can be used in the adjustment as described in the given procedure.
If the input signal has the setup, adjust the luminance level from the pedestal to the white peak including the setup.

(2) Setup level adjustment (NTSC only)
The NTSC signal generator usually generates a signal with the Setup component. If it cannot be switched off, follow the alternative adjustment procedure for the signal with Setup, which is provided for each adjustment item.

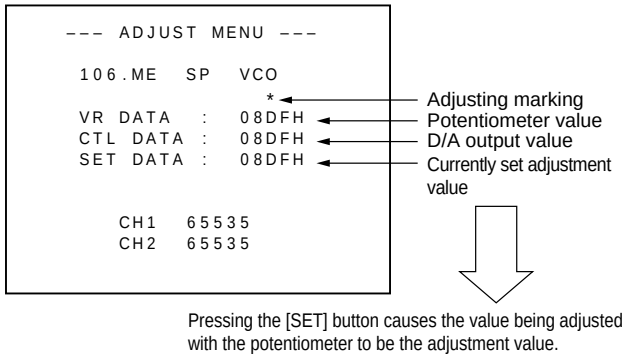
(3) Color level adjustments (Both of NTSC and PAL)
The chroma level is variable depending on whether it is 75% or 100% and on whether the Setup component is present (NTSC only). As a result, a correct adjustment is not possible unless the specified signal is used. If the specified signal is not available, refer to the following.

- Chroma level adjustment
  First measure the input signal what the signal type is (Refer to the table 3.1.4). Then apply the signal (composite or Y/C) to the AG-DV2500 and adjust the output signal level equal to the input type level.
- Burst level adjustment
  The burst level is identical for all signals. There will be no problem if it can be adjusted to NTSC: 0.286 Vp-p (PAL: 0.3 Vp-p). There is no problem whether or not the Setup component is present (NTSC only).

### 3.1.5 Adjustment menu

(1) Operation method
Use the ADJUST MENU for adjustments. The operating method is as follows.

① Make sure of no cassette in the VTR. While holding the [REW] and [FF] buttons, press the [OPERATE] button to turn the unit on.
② When the unit is turned on, press and hold the [EJECT] button for about 2 seconds until the ADJUST MENU is displayed.
③ Press the ► (FF) or ◄ (REW) button to select adjustment item.
④ Press the [SET] (PAUSE) button so that the "*" marking blinks and, while observing the specified TP, the measuring instrument and others, press the ▲ (PLAY) button or ▼ (STOP) button to adjust the value to the specified value.
(Pressing the [A.DUB] button simultaneously with the ▲ or ▼ button varies the adjustment value by ±10 steps.)


--- ADJUST MENU ---
106.ME SP VCO
*
VR DATA : 08DFH
CTL DATA : 08DFH
SET DATA : 08DFH
CH1 65535
CH2 65535
Adjusting marking
Potentiometer value
D/A output value
Currently set adjustment value
Pressing the [SET] button causes the value being adjusted with the potentiometer to be the adjustment value.

⑤ After completing the adjustment, press the [SET] (PAUSE) button again to turn the "*" marking off and store the adjustment value. (The adjustment value is not stored and moving to the next adjustment item can not be performed unless the [SET] (PAUSE) button is pressed.)
⑥ Press the ►(FF) or ◄ (REW) button to select the next adjustment item.

**Notes:**
- When the adjustment procedure requires a mode transition to PLAY, etc., use the accessory of wireless remote controller.
- After completing all of the required settings, press [OPERATE] button to turn off the power.
- To return to normal operating status, tur n the unit off then on again. If this is not performed, since the unit is turned on in the adjustment mode, pressing the MENU button displays an adjustment menu and it is not possible to display the normal operation menu.

**[NTSC]**

| Type | Y level [mVp-p] | White [mV] | Sync [mV] | Setup [mV] | Burst [mVp-p] | YL/B [mVp-p] | CY/R [mVp-p] | G/MG [mVp-p] |
|---|---|---|---|---|---|---|---|---|
| Y 100%, color 100% level, setup 0% | 1000 | 714 | 286 | 0 | 286 | 640 | 908 | 848 |
| Y 100%, color 100% level, setup 7.5% | 1000 | 714 | 286 | 53.6 | 286 | 592 | 836 | 780 |
| Y 100%, color 75% level, setup 0% | 1000 | 714 | 286 | 0 | 286 | 480 | 681 | 636 |
| Y 100%, color 75% level, setup 7.5% | 1000 | 714 | 286 | 53.6 | 286 | 444 | 627 | 585 |

**[PAL]**

| Type | Y level [mVp-p] | White [mV] | Sync [mV] | Burst [mVp-p] | YL/B [mVp-p] | CY/R [mVp-p] | G/MG [mVp-p] |
|---|---|---|---|---|---|---|---|
| Y 100%, color 100% level | 1000 | 700 | 300 | 300 | 627 | 885 | 827 |
| Y 100%, color 75% level | 1000 | 700 | 300 | 300 | 471 | 664 | 620 |

**YL/B: Yellow and Blue level. CY/R: Cyan and Red level. G/MG: Green and Magenta level.**

**Table 3.1.4**

(2) Adjustment items and initial data

The initial values are merely the typical values, which are written automatically after the EEP-ROM replacement, etc. As the adjustments will not be correct if these values are left, be sure to perform actual adjustments before use.

The hatched rows in the following table indicate that adjustments are not necessary, so do not change the value of the initial settings.

| No. | Adjustment item (OSD characters) | Initial value (CTL DATA) | Adjustment range |
|---|---|---|---|
| 100 | PB SW POINT | Auto adjustment | 0000H~FFFFH |
| 105 | ME REC CURRENT | 121 | 0~255 |
| 106 | ME SP VCO | 0890(Hex) | 0000H~FFFFH |
| 107 | ME LP VCO | 0892(Hex) | 0000H~FFFFH |
| 110 | FS PLL 48kHz | 25 | 0~255 |
| 111 | FS PLL 44.1kHz | 83 | 0~255 |
| 112 | FS PLL 32kHz | 25 | 0~255 |
| 113 | 27MHz VCO | 143 | 0~255 |
| 114 | ATF GAIN | 110 | 0~255 |
| 115 | AGC GAIN | 132 | 0~255 |
| 116 | DUMP CTL | 68 | 0~255 |
| 117 | PB VCO | 128 | 0~255 |
| 118 | BGNEND SENS | 18 | 0~255 |
| 119 | FWD TORQUE | 192 | 0~255 |
| 120 | REV TORQUE | 192 | 0~255 |
| 121 | UNLOAD TORQUE | 72 | 0~255 |
| 200 | OSD ADJ | 53 | 0~255 |
| 210 | PB Y LEV(S OFF) | 129 | 0~255 |
| 211 | PB SETUP LEV(S OFF) | 192 | 192~207 |
| 212 | PB SYNC LEV(S OFF) | 89 | 0~255 |
| 213 | PB C LEV(S OFF) | 95 | 0~255 |
| 214 | PB BUR LEV(S OFF) | 205 | 0~255 |
| 215 | YC REC Y LEV(S OFF) | 94 | 0~255 |
| 216 | YC REC ST LV(S OFF) | 9 | 0~127 |
| 217 | YC REC C LEV(S OFF) | 0 | -16~15 |
| 218 | LE REC Y LEV(S OFF) | 92 | 0~255 |
| 219 | LE REC ST LV(S OFF) | 8 | 0~127 |
| 220 | LE REC C LEV(S OFF) | 0 | -16~15 |
| 221 | YC EE Y LEV(S OFF) | 96 | 0~255 |
| 222 | YC EE C LEV(S OFF) | 174 | 0~255 |
| 223 | LE EE Y LEV(S OFF) | 95 | 0~255 |

| No. | Adjustment item (OSD characters) | Initial value (CTL DATA) | Adjustment range |
|---|---|---|---|
| 224 | LE EE C LEV(S OFF) | 152 | 0~255 |
| 230 | PB Y LEV(S ON) | 119 | 0~255 |
| 231 | PB SETUP LEV(S ON) | 201 | 192~207 |
| 232 | PB SYNC LEV(S ON) | 118 | 0~255 |
| 233 | PB C LEV(S ON) | 87 | 0~255 |
| 234 | PB BUR LEV(S ON) | 200 | 0~255 |
| 235 | YC REC Y LEV(S ON) | 94 | 0~255 |
| 236 | YC REC ST LV(S ON) | 34 | 0~127 |
| 237 | YC REC C LEV(S ON) | 1 | -16~15 |
| 238 | LE REC Y LEV(S ON) | 91 | 0~255 |
| 239 | LE REC ST LV(S ON) | 31 | 0~127 |
| 240 | LE REC C LEV(S ON) | 2 | -16~15 |
| 241 | YC EE Y LEV(S ON) | 95 | 0~255 |
| 242 | YC EE C LEV(S ON) | 172 | 0~255 |
| 243 | LE EE Y LEV(S ON) | 96 | 0~255 |
| 244 | LE EE C LEV(S ON) | 149 | 0~255 |
| 260 | PB Y LEV(PAL) | 127 | 0~255 |
| 261 | PB SETUP LEV(PAL) | 0 | 0~16 |
| 262 | PB SYNC LEV(PAL) | 94 | 0~255 |
| 263 | PB C LEV(PAL) | 95 | 0~255 |
| 264 | PB BUR LEV(PAL) | 29 | 0~255 |
| 265 | YC REC Y LEV(PAL) | 104 | 0~255 |
| 266 | YC REC ST LV(PAL) | 3 | 0~127 |
| 267 | YC REC C LEV(PAL) | -16 | -16~15 |
| 268 | LE REC Y LEV(PAL) | 101 | 0~255 |
| 269 | LE REC ST LV(PAL) | 2 | 0~127 |
| 270 | LE REC C LEV(PAL) | -16 | -16~15 |
| 271 | YC EE Y LEV(PAL) | 94 | 0~255 |
| 272 | YC EE C LEV(PAL) | 233 | 0~255 |
| 273 | LE EE Y LEV(PAL) | 93 | 0~255 |
| 274 | LE EE C LEV(PAL) | 206 | 0~255 |

**Table 3.1.5 Adjustment menu items**

### 3.2 DVC UNIT ADJUSTMENTS

Preparation : Connect the Rewrite board (VFK1846) to CN4004 on the Main board. Connect it in the orientation shown in Fig. 3.2, so that the test point surface (component mounting surface) faces toward the rear.

NOTE : DVC UNIT ADJUSTMENTS can be completed if NTSC mode is performed.
Set the NTSC/PAL switch of the rear panel to NTSC.

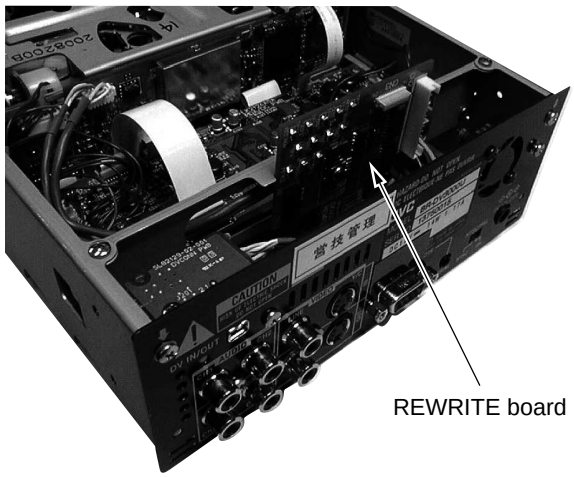



**Fig. 3.2 Rewrite board connection method**

| No. | Item | Measuring instruments & Input signals | Mode | Measuring point (◎)<br>Adjustment parts ( ⓣ )<br>Adjustment level ( ☆ ) | Adjustment procedure |
|---|---|---|---|---|---|
| 1 | PB switching point adjustment | Alignment tape, VFK1842 color bar recorded section | • PLAY<br>• ADJUST MENU, 100. PB SW POINT | ◎ TP6 (SPA)<br>◎ TP9 (ENV OUT)<br>TRIG: TP5 (HID)<br>GND: TP1 (GND)<br>[Rewrite board]<br>ⓣ Auto adjustment<br>☆ a and b = 126 µ sec ± 10 µ sec | (1) Select ADJUST MENU No. 100, "PB SW POINT".<br>(2) Playback the alignment tape. Confirm that the compatibility adjustment has been performed and the FM waveform at TP9 (ENV OUT) is flat and stable.<br>(3) Press the [ SET ] button to cause the * marking to blink. The PB switching point will be adjusted automatically. |

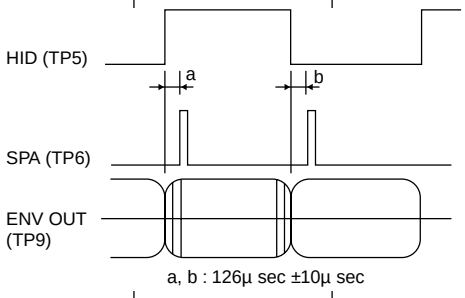



**Fig. 3.2.1(1)**

| No. | Item | Measuring instruments & Input signals | Mode | Measuring point (◎)<br>Adjustment parts (⊺)<br>Adjustment level (☆) | Adjustment procedure |
|---|---|---|---|---|---|
| | | | | | (4) Measure TP6 (SPA) by triggering TP5 (HID) and confirm that the values a and b are within the specified ranges.<br>(5) Press the [PLAY] button a few times to display the adjustment data in the "DATA:" field. (The DATA value should not be 00000000 or FFFFFFFF.)<br>(6) Press the [SET] button to store the adjustment data.<br><br>**NOTE:**<br>**Make sure that the data value is displayed before pressing the [SET] button. If this adjustment is completed before the data value is displayed the adjustment value will not be put into the memory.** |
| 2 | ME recording current adjustment | | • EE<br>• ADJUST MENU, 105. ME REC CURRENT | ◎ Monitor display<br>⊺ [PLAY] and [STOP] buttons<br>☆ SET DATA = 115 | (1) Select ADJUST MENU No. 105, "ME REC CURRENT".<br>(2) Check the set data so that the value is "115" (Recording current is approx. 360 mVp-p). If not, adjust the value to "115"<br>(3) Press the [SET] button to store the adjustment data. |

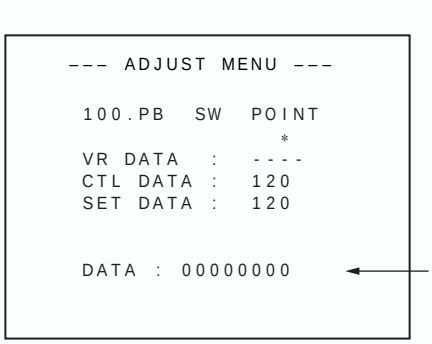

--- ADJUST MENU ---
100.PB SW POINT
*
VR DATA : ----
CTL DATA : 120
SET DATA : 120
DATA : 00000000
Press the [PLAY] button a few times to display data.
After displaying the data, press the [SET] button to complete the adjustment.

**Fig. 3.2.1(2)**

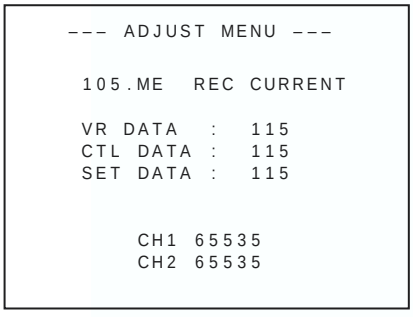



**Fig. 3.2.2**

| No. | Item | Measuring instruments & Input signals | Mode | Measuring point (◎)<br>Adjustment parts ( ⓘ )<br>Adjustment level ( ☆ ) | Adjustment procedure |
|---|---|---|---|---|---|
| 3 | ME SP VCO offset adjustment (Error rate adjustment) | Recording tape (brand-new tape)<br><br>Moving Picture | • Self-REC/ PLAY<br>• ADJUST MENU, 106. ME SP VCO | Monitor display [PLAY] and [STOP] buttons<br>Minimum error rate, which should be ≦ 498 (per CH).<br>(Viterbi : OFF) | **(Notes)**<br>• **Be sure to use a brand-new tape for the ME SP VCO offset adjustment.**<br>• **Be sure to clean the head with a head cleaning tape before adjustment.**<br>• **The error rate should be measured with the Viterbi OFF. The Viterbi is switched OFF automatically when the adjustment mode is entered.**<br>• **The error rate value is displayed in decimal form.**<br><br>(1) Record a moving image in advance on the NEW recording tape for 5 minutes.<br>(2) Select ADJUST MENU No. 106, "ME SP VCO".<br>(3) Playback the recorded tape, press the [STOP] button to decrease the adjustment EVR data and freeze the image. (Pressing the [A.DUB] button simultaneously with the ▲ or ▼ button varies the adjustment value by ± 10 steps.)<br>(4) Increase the EVR data gradually until the block noise just disappears. The current value is the adjustment value "A".<br>(5) Playback the recorded tape and press the [PLAY] button to increase the EVR data and freeze the image.<br>(6) Decrease the EVR data gradually until the block noise just disappears. The current value is the adjustment value "B".<br>(7) Calculate the intermediate value between the "A" and "B" values.<br>(Since the adjustment values are hex numbers, use a functional computation-capable calculator or the PC calculator provided in Accessories.)<br>C = (A + B)/2<br>Set the value "C" as the adjustment value.<br>(8) Playback the recorded tape again, confirm that the error rate is within specification.<br>(9) Press the [SET] button to store the adjustment data. |

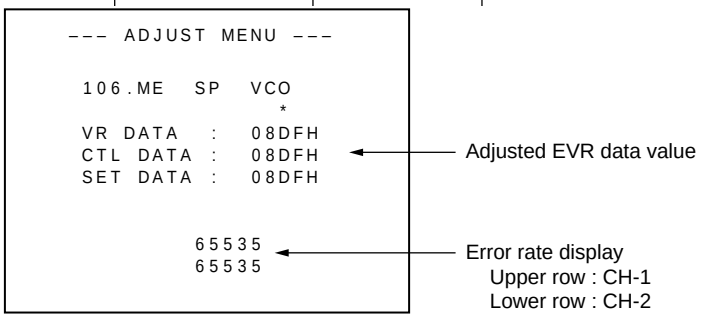



**Fig. 3.2.3 (1) SP VCO Offset Menu**

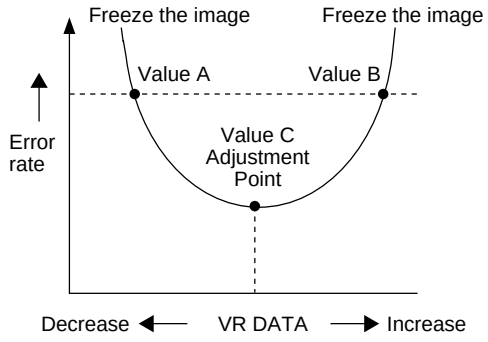



**Fig. 3.2.3 (2) Consept of the adjustment**

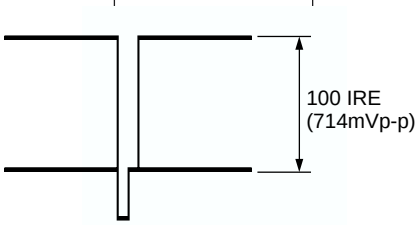
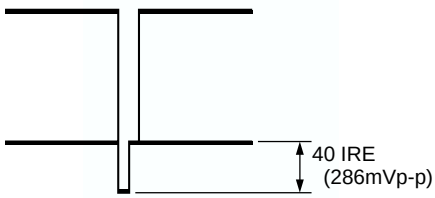
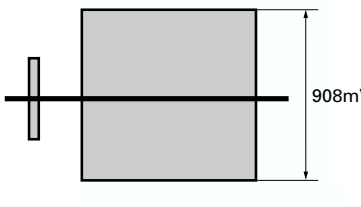
| No. | Item | Measuring instruments & Input signals | Mode | Measuring point (◎)<br>Adjustment parts ( ⓣ )<br>Adjustment level ( ☆ ) | Adjustment procedure |
|---|---|---|---|---|---|
| 4 | FS PLL 48 kHz adjust-ment | Frequency counter<br>No input | EE<br>ADJUST<br>MENU, 110. FS PLL 48 kHz | ◎ TP4 (FS PLL)<br>GND: TP1 (GND)<br>[Rewrite board]<br>ⓣ [PLAY] and [STOP] buttons<br>☆ 12.288 MHz ± 0.1 MHz | (1) Select ADJUST MENU No. 110, "FS PLL 48 kHz".<br>(2) Press the [SET] button to measure frequency.<br>(3) Adjust the frequency to the specified value.<br>(4) Press the [SET] button to store the adjustment data. |
| 5 | FS PLL 44.1 kHz adjustment | Frequency counter<br>No input | EE<br>ADJUST<br>MENU, 111.<br>FS PLL<br>44.1 kHz | ◎ TP4 (FS PLL)<br>GND: TP1 (GND)<br>[Rewrite board]<br>ⓣ [PLAY] and [STOP] buttons<br>☆ 11.2896 MHz ± 0.1 MHz | (1) Select ADJUST MENU No. 111, "FS PLL 44.1 kHz".<br>(2) Press the [SET] button to measure frequency.<br>(3) Adjust the frequency to the specified value.<br>(4) Press the [SET] button to store the adjustment data. |
| 6 | FS PLL 32 kHz adjust-ment | No input. | EE<br>ADJUST<br>MENU,112. FS PLL 32 kHz | ◎ Monitor display<br>ⓣ [PLAY] and [STOP] buttons<br>☆ Value adjusted in No. 110, "FS PLL 48 kHz" in item 4 above. | (1) Select ADJUST MENU No. 112, "FS PLL 32 kHz".<br>(2) Press the [SET] button to measure frequency.<br>(3) Adjust to the same value as the FS PLL 48 kHz adjustment value. (Setting range: 0 to 255)<br>(4) Press the [SET] button to store the adjustment data. |
| 7 | 27 MHz VCO center frequency adjustment | Frequency counter<br>No input | EE<br>ADJUST<br>MENU,113.<br>27 MHz VCO | ◎ TP7 (MAIN VCO)<br>GND: TP1 (GND)<br>[Rewrite board]<br>ⓣ [PLAY] and [STOP] buttons<br>☆ 13.5 MHz ± 0.1 MHz | (1) Select ADJUST MENU No. 113, "27 MHz VCO".<br>(2) Press the [SET] button to measure frequency.<br>(3) Adjust the frequency to the specified value.<br>(4) Press the [SET] button to store the adjustment data. |

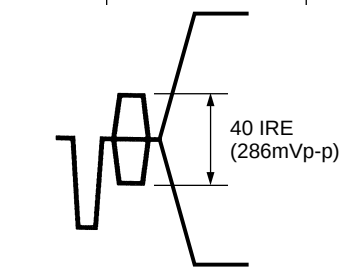
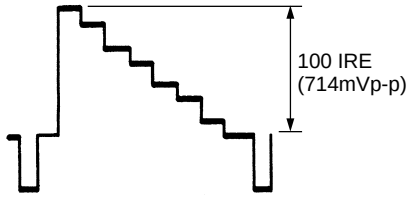
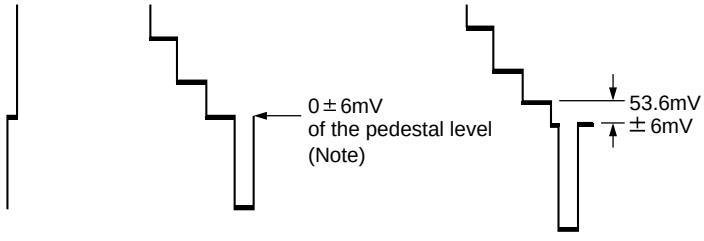
### 3.3 VIDEO SYSTEM ADJUSTMENTS

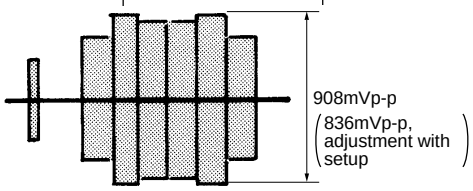
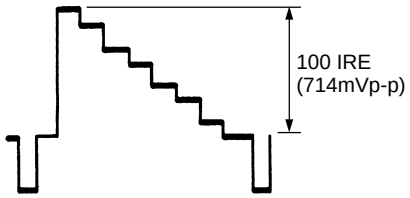
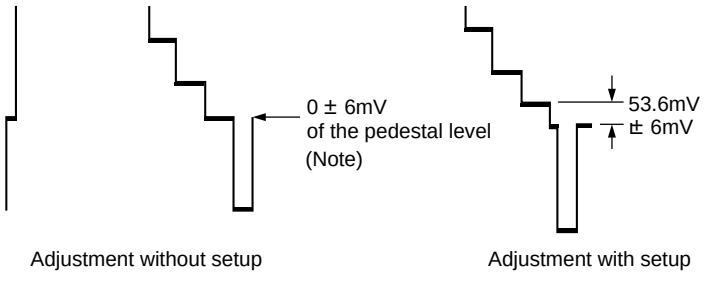
- Use NTSC signals for the NTSC adjustments and PAL signals for the PAL adjustments.
- Use the specified signals to make adjustments whenever possible. When there are no specified signals, please refer to the "3.1.4 Notes for adjustments".
- The monitor image may fluctuate horizontally during adjustments. This phenomenon occurs only in the adjustment mode and does not affect the adjustment results.
- When an item is selected in the ADJUST MENU and INPUT SELECT SW sets to LINE or Y/C, the INPUT SELECT is switched automatically according to the selected item. If DV input is selected, disable automatic selection.

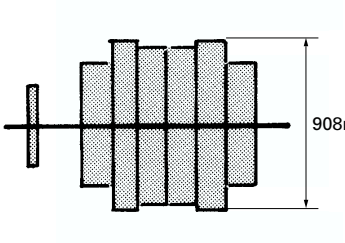
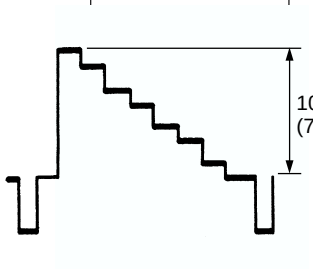
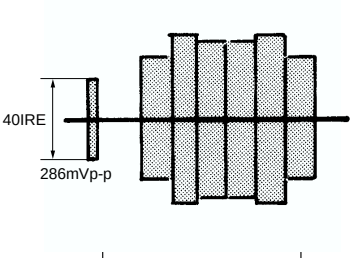
#### (1) NTSC circuit adjustments

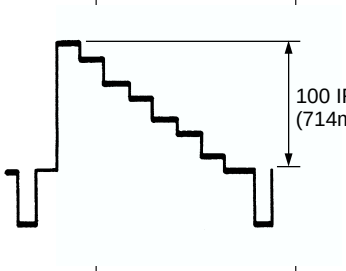
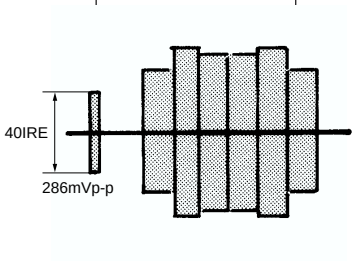
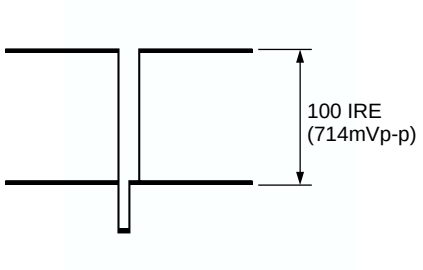
Set the [NTSC/PAL] switch of rear panel to "NTSC".

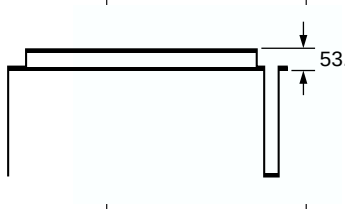
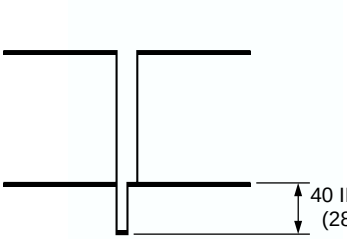
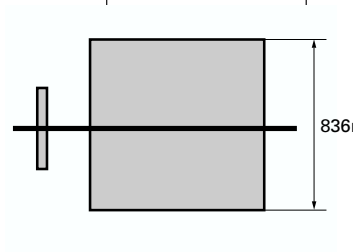
| No. | Item | Measuring instruments & Input signals | Mode | Measuring point (◎)<br>Adjustment parts (⏉)<br>Adjustment level (☆) | Adjustment procedure |
|---|---|---|---|---|---|
| 1 | NTSC PB Y level adjustment (SETUP OFF)<br>  | WFM (NTSC) or oscilloscope<br>100% WHITE (built-in signal) | EE<br>ADJUST MENU, 210. PB Y LEV (S OFF) | ◎ Y OUT (Y/C jack) (75 Ω terminated)<br>⏉ [PLAY] and [STOP] buttons<br>☆ 100 IRE (714 mVp-p) | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 210, "PB Y LEV (S OFF)".<br>(3) Adjust so that the level from the pedestal to 100% WHITE is as specified.<br>(4) Press the [SET] button to store the adjustment data. |
| 2 | NTSC PB SYNC level adjustment (SETUP OFF)<br>  | WFM (NTSC) or oscilloscope<br>100% WHITE (built-in signal) | EE<br>ADJUST MENU, 212. PB SYNC LEV (S OFF) | ◎ Y OUT (Y/C jack) (75 Ω terminated)<br>⏉ [PLAY] and [STOP] buttons<br>☆ 40 IRE (286 mVp-p) | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 212, "PB SYNC LEV (S OFF)".<br>(3) Adjust so that the level from the pedestal to the sync tip is as specified.<br>(4) Press the [SET] button to store the adjustment data. |
| 3 | NTSC PB Chroma level adjustment (SETUP OFF)<br>  | WFM (NTSC) or oscilloscope<br>RED raster (built-in signal) | EE<br>ADJUST MENU, 213. PB C LEV (S OFF) | ◎ C OUT (Y/C jack) (75 Ω terminated)<br>⏉ [PLAY] and [STOP] buttons<br>☆ 908 mVp-p | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 213, "PB C LEV (S OFF)".<br>(3) Adjust so that the chroma level is as specified.<br>(4) Press the [SET] button to store the adjustment data. |

| No. | Item | Measuring instruments & Input signals | Mode | Measuring point (◎) Adjustment parts (↑) Adjustment level (☆) | Adjustment procedure |
|---|---|---|---|---|---|
| 4 | NTSC PB BURST level adjustment (SETUP OFF) | WFM (NTSC) or oscilloscope RED raster (built-in signal) | EE ADJUST MENU, 214. PB BUR LEV (S OFF) | ◎ C OUT (Y/C jack) (75Ω terminated)<br>↑ [PLAY] and [STOP] buttons<br>☆ 40 IRE (286 mVp-p) | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 214, "PB BUR LEV (S OFF)".<br>(3) Adjust so that the burst level is as specified.<br>(4) Press the [SET] button to store the adjustment data. |
| |  | | | | |
| 5 | NTSC Y/C IN REC Y level adjustment (SETUP OFF) | WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (SETUP 0%) | EE ADJUST MENU, 215. YC REC Y LEV (S OFF) | ◎ Y OUT (Y/C jack) (75Ω terminated)<br>↑ [PLAY] and [STOP] buttons<br>☆ 100 IRE (714 mVp-p) | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 215, "YC REC Y LEV (S OFF)".<br>(3) Adjust so that the level from the pedestal to 100% WHITE is as specified.<br>(4) Press the [SET] button to store the adjustment data. |
| |  | | | | |
| 6 | NTSC Y/C IN REC SETUP level adjust-ment (SETUP OFF) | WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (SETUP 0%) | EE ADJUST MENU, 216. YC REC ST LV (S OFF) | ◎ Y OUT (Y/C jack) (75Ω terminated)<br>↑ [PLAY] and [STOP] buttons<br>☆ 0 ± 6 mV of the pedestal level | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 216, "YC REC ST LV (S OFF)".<br>(3) Adjust so that the setup level is as specified.<br>(4) Press the [SET] button to store the adjustment data.<br>(5) Check ADJUST MENU No. 215, "YC REC Y LEV (S OFF)". If it is deviated, adjust it again.<br>**Reference:**<br>**If a 7.5% setup signal should be used, the same effect as this adjustment can be obtained by adjusting the setup level to 53.6 mV ± 6 mV.**<br>**Note:**<br>Adjust the setup level by decreasing it from + side, and stop decreasing when it just reaches 0. |
| |  <br>Adjustment without setup<br>Adjustment with setup | | | | |

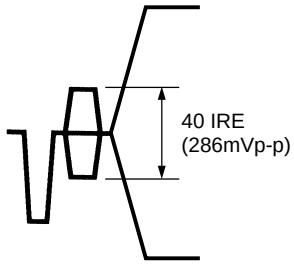
| No. | Item | Measuring instruments & Input signals | Mode | Measuring point (◎)<br>Adjustment parts (⏉)<br>Adjustment level (☆) | Adjustment procedure |
|---|---|---|---|---|---|
| 7 | NTSC Y/C IN REC C level adjustment (SETUP OFF) | WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (SETUP 0%) | EE ADJUST MENU, 217. YC REC C LEV (S OFF) | ◎ C OUT (Y/C jack) (75Ω terminated)<br>⏉ [PLAY] and [STOP] buttons<br>☆ 908 mVp-p (RED) | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 217, "YC REC C LEV (S OFF)".<br>(3) Adjust so that the RED color levels are as specified.<br>(4) Press the [SET] button to store the adjustment data.<br>**Reference:**<br>**If 7.5% signal setup should be used, the same effect as this adjustment can be obtained by adjusting the color level to 836 mV p-p (100% color).** |
| | |  | | | |
| 8 | NTSC LINE IN REC Y level adjustment (SETUP OFF) | WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (SETUP 0%) | EE ADJUST MENU, 218. LE REC Y LEV (S OFF) | ◎ Y OUT (Y/C jack) (75Ω terminated)<br>⏉ [PLAY] and [STOP] buttons<br>☆ 100 IRE (714 mVp-p) | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 218, "LE REC Y LEV (S OFF)".<br>(3) Adjust so that the level from the pedestal to 100% WHITE is as specified.<br>(4) Press the [SET] button to store the adjustment data. |
| | |  | | | |
| 9 | NTSC LINE IN REC SETUP level adjustment (SETUP OFF) | WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (SETUP 0%) | EE ADJUST MENU, 219. LE REC ST LV (S OFF) | ◎ Y OUT (Y/C jack) (75Ω terminated)<br>⏉ [PLAY] and [STOP] buttons<br>☆ 0 ± 6 mV of the pedestal level | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 219, "LE REC ST LV (S OFF)".<br>(3) Adjust so that the setup level is as specified.<br>(4) Press the [SET] button to store the adjustment data.<br>(5) Check ADJUST MENU No. 218, "LE REC Y LEV (S OFF)". If it is deviated, adjust it again.<br>**Reference:**<br>**If 7.5% signal setup should be used, the same effect as this adjustment can be obtained by adjusting the setup level to 53.6 mV ± 6 mV.**<br>**Note:**<br>Adjust the setup level by decreasing it from + side, and stop decreasing when it just reaches 0. |
| | |  | | | |

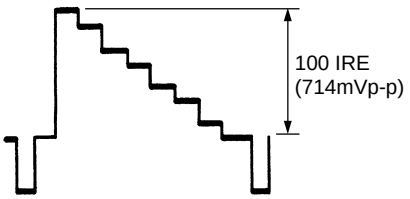
| No. | Item | Measuring instruments & Input signals | Mode | Measuring point (◎)<br>Adjustment parts (⇧)<br>Adjustment level (☆) | Adjustment procedure |
|---|---|---|---|---|---|
| 10 | NTSC LINE IN REC C level adjustment (SETUP OFF) | WFM (NTSC) or oscilloscope<br>LINE IN.<br>NTSC 100% color bar<br>(SETUP 0%) | EE<br>ADJUST MENU, 220.<br>LE REC C LEV<br>(S OFF) | ◎ C OUT (Y/C jack) (75 Ω terminated)<br>⇧ [PLAY] and [STOP] buttons<br>☆ 908 mVp-p (RED) | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 220, "LE REC C LEV (S OFF)".<br>(3) Adjust so that the RED color levels are as specified.<br>(4) Press the [SET] button to store the adjustment data.<br>**Reference:**<br>**If 7.5% signal setup should be used, the same effect as this adjustment can be obtained by adjusting the color level to 836 mV p-p (100% color).** |
| |  | | | | |
| 11 | NTSC Y/C IN EE Y level adjustment (SETUP OFF) | WFM (NTSC) or oscilloscope<br>Y/C IN.<br>NTSC 100% color bar<br>(SETUP 0%) | EE<br>ADJUST MENU, 221.<br>YC EE Y LEV<br>(S OFF) | ◎ Y OUT (Y/C jack) (75 Ω terminated)<br>⇧ [PLAY] and [STOP] buttons<br>☆ 100 IRE (714 mVp-p) | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 221, "YC EE Y LEV (S OFF)".<br>(3) Adjust so that the level from the pedestal to 100% WHITE is as specified.<br>(4) Press the [SET] button to store the adjustment data.<br>**Reference:**<br>**If a 7.5% setup signal should be used, the same effect as this adjustment can be obtained by simply ignoring the setup level.** |
| |  | | | | |
| 12 | NTSC Y/C IN EE C level adjustment (SETUP OFF) | WFM (NTSC) or oscilloscope<br>Y/C IN.<br>NTSC 100% color bar<br>(SETUP 0%) | EE<br>ADJUST MENU, 222.<br>YC EE C LEV<br>(S OFF) | ◎ C OUT (Y/C jack) (75 Ω terminated)<br>⇧ [PLAY] and [STOP] buttons<br>☆ 40 IRE (286 mVp-p) | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 222, "YC EE C LEV (S OFF)".<br>(3) Adjust so that the burst levels are as specified.<br>(4) Press the [SET] button to store the adjustment data. |
| |  | | | | |

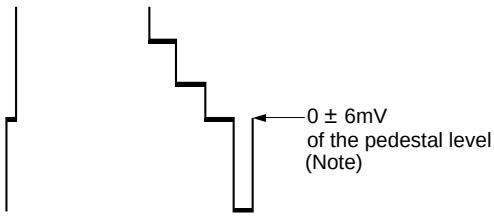
| No. | Item | Measuring instruments & Input signals | Mode | Measuring point (◎)<br>Adjustment parts (⏉)<br>Adjustment level (☆) | Adjustment procedure |
|---|---|---|---|---|---|
| 13 | NTSC LINE IN EE Y level adjustment (SETUP OFF)<br>  | WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (SETUP 0%) | EE ADJUST MENU, 223. LE EE Y LEV (S OFF) | ◎ Y OUT (Y/C jack) (75 Ω terminated)<br>⏉ [PLAY] and [STOP] buttons<br>☆ 100 IRE (714 mVp-p) | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 223, "LE EE Y LEV (S OFF)".<br>(3) Adjust so that the level from the pedestal to 100% WHITE is as specified.<br>(4) Press the [SET] button to store the adjustment data.<br>**Reference:**<br>**If a 7.5% setup signal should be used, the same effect as this adjustment can be obtained by simply ignoring the setup level.** |
| 14 | NTSC LINE IN EE C level adjustment (SETUP OFF)<br>  | WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (SETUP 0%) | EE ADJUST MENU, 224. LE EE C LEV (S OFF) | ◎ C OUT (Y/C jack) (75 Ω terminated)<br>⏉ [PLAY] and [STOP] buttons<br>☆ 40 IRE (286 mVp-p) | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 224, "LE EE C LEV (S OFF)".<br>(3) Adjust so that the burst levels are as specified.<br>(4) Press the [SET] button to store the adjustment data. |
| 15 | NTSC PB Y level adjustment (SETUP ON)<br>  | WFM (NTSC) or oscilloscope 100% WHITE (built-in signal) | EE ADJUST MENU, 230. PB Y LEV (S ON)C LEV | ◎ Y OUT (Y/C jack) (75 Ω terminated)<br>⏉ [PLAY] and [STOP] buttons<br>☆ 100 IRE (714 mVp-p) | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 230, "PB Y LEV (S ON)".<br>(3) Adjust so that the level from the pedestal to 100% WHITE is as specified.<br>(4) Press the [SET] button to store the adjustment data. |

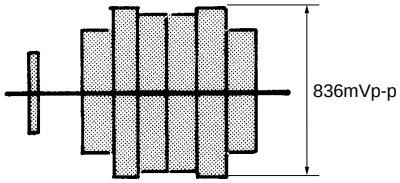
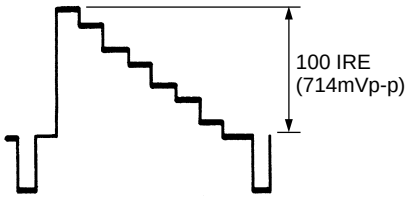
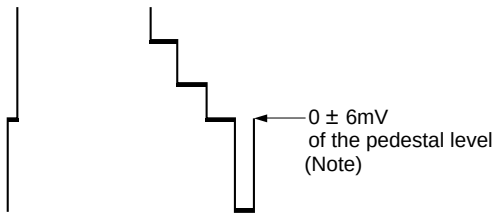
| No. | Item | Measuring instruments & Input signals | Mode | Measuring point (◎)<br>Adjustment parts (⇧)<br>Adjustment level (☆) | Adjustment procedure |
|---|---|---|---|---|---|
| 16 | NTSC PB SETUP level adjustment (SETUP ON)<br>  | WFM (NTSC) or oscilloscope<br>BLACK BURST (built-in signal) | EE<br>ADJUST MENU, 231. PB SETUP LEV (S ON) | ◎ Y OUT (Y/C jack) (75 Ω terminated)<br>⇧ [PLAY] and [STOP] buttons<br>☆ 53.6 mVp-p | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 231, "PB SETUP LEV (S ON)".<br>(3) Adjust so that the SETUP levels are as specified.<br>(4) Press the [SET] button to store the adjustment data.<br>(5) Check ADJUST MENU No. 230, "PB Y LEV (S ON)" in item 15. If it is deviated, adjust it again. |
| 17 | NTSC PB SYNC level adjustment (SETUP ON)<br>  | WFM (NTSC) or oscilloscope<br>100% WHITE (built-in signal) | EE<br>ADJUST MENU, 232. PB SYNC LEV (S ON) | ◎ Y OUT (Y/C jack) (75 Ω terminated)<br>⇧ [PLAY] and [STOP] buttons<br>☆ 40 IRE (286 mVp-p) | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 232, "PB SYNC LEV (S ON)".<br>(3) Adjust so that the sync level is as specified.<br>(4) Press the [SET] button to store the adjustment data. |
| 18 | NTSC PB C level adjustment (SETUP ON)<br>  | WFM (NTSC) or oscilloscope<br>RED raster (built-in signal) | EE<br>ADJUST MENU, 233. PB C LEV (S ON) | ◎ C OUT (Y/C jack) (75 Ω terminated)<br>⇧ [PLAY] and [STOP] buttons<br>☆ 836 mVp-p | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 233, "PB C LEV (S ON)".<br>(3) Adjust so that the RED color level is as specified.<br>(4) Press the [SET] button to store the adjustment data. |

| No. | Item | Measuring instruments & Input signals | Mode | Measuring point (◎)<br>Adjustment parts ( ↑ )<br>Adjustment level ( ☆ ) | Adjustment procedure |
|---|---|---|---|---|---|
| 19 | NTSC PB BURST level adjustment (SETUP ON) | WFM (NTSC) or oscilloscope RED raster (built-in signal) | EE<br>ADJUST MENU, 234.<br>PB BUR LEV (S ON) | ◎ C OUT (Y/C jack) (75Ω terminated)<br>↑ [PLAY] and [STOP] buttons<br>☆ 40 IRE (286 mVp-p) | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 234, "PB BUR LEV (S ON)".<br>(3) Adjust so that the burst level is as specified.<br>(4) Press the [SET] button to store the adjustment data. |
| 20 | NTSC Y/C In REC Y level adjustment (SETUP ON) | WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (Setup 7.5%) | EE<br>ADJUST MENU, 235.<br>YC REC Y LEV (S ON) | ◎ Y OUT (Y/C jack) (75Ω terminated)<br>↑ [PLAY] and [STOP] buttons<br>☆ 100 IRE (714 mVp-p) | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 235, "YC REC Y LEV (S ON)".<br>(3) Adjust so that the level from the pedestal to 100% WHITE is as specified.<br>(4) Press the [SET] button to store the adjustment data. |
| 21 | NTSC Y/C IN REC SETUP level adjustment (SETUP ON) | WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (Setup 7.5%) | EE<br>ADJUST MENU, 236.<br>YC REC ST LV (S ON) | ◎ Y OUT (Y/C jack) (75Ω terminated)<br>↑ [PLAY] and [STOP] buttons<br>☆ 0 ± 6 mV of the pedestal level | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 236, "YC REC ST LV (S ON)".<br>(3) Adjust so that the setup level is as specified.<br>(4) Press the [SET] button to store the adjustment data.<br>(5) Check ADJUST MENU No. 235, "YC REC Y LEV (S ON)" in item 20 above. If it is deviated, adjust it again.<br>**Note:**<br>Adjust the setup level by decreasing it from + side, and stop decreasing when it just reaches 0. |

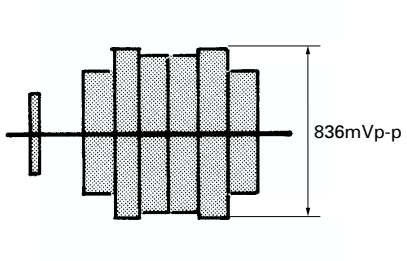


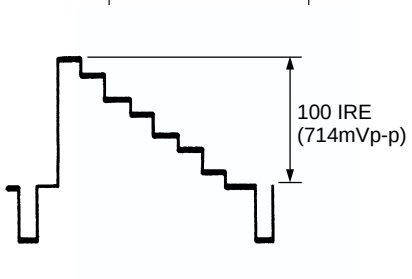



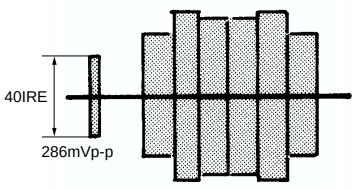



| No. | Item | Measuring instruments & Input signals | Mode | Measuring point (◎)<br>Adjustment parts (⏉)<br>Adjustment level (☆) | Adjustment procedure |
|---|---|---|---|---|---|
| 22 | NTSC Y/C IN REC SETUP level adjustment (SETUP ON) | WFM (NTSC) or oscilloscope<br>Y/C IN.<br>NTSC 100% color bar (Setup 7.5%) | EE<br>ADJUST MENU, 237.<br>YC REC C LEV (S ON) | ◎ C OUT (Y/C jack) (75Ω terminated)<br>⏉ [PLAY] and [STOP] buttons<br>☆ 836 mVp-p (RED) | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 237, "YC REC C LEV (S ON)".<br>(3) Adjust so that the RED color levels are as specified.<br>(4) Press the [SET] button to store the adjustment data. |
| |  | | | | |
| 23 | NTSC LINE IN REC Y level adjustment (SETUP ON) | WFM (NTSC) or oscilloscope<br>LINE IN.<br>NTSC 100% color bar (Setup 7.5%) | EE<br>ADJUST MENU, 238.<br>LE REC Y LEV (S ON) | ◎ Y OUT (Y/C jack) (75Ω terminated)<br>⏉ [PLAY] and [STOP] buttons<br>☆ 100 IRE (714 mVp-p) | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 238, "LE REC Y LEV (S ON)".<br>(3) Adjust so that the difference from the pedestal to 100% WHITE is as specified.<br>(4) Press the [SET] button to store the adjustment data. |
| |  | | | | |
| 24 | NTSC LINE IN REC SETUP level adjustment (SETUP ON) | WFM (NTSC) or oscilloscope<br>LINE IN.<br>NTSC 100% color bar (Setup 7.5%) | EE<br>ADJUST MENU, 239.<br>LE REC ST LV (S ON) | ◎ Y OUT (Y/C jack) (75Ω terminated)<br>⏉ [PLAY] and [STOP] buttons<br>☆ 0 ± 6 mV of the pedestal level | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 239, "LE REC ST LV (S ON)".<br>(3) Adjust so that the setup level is as specified.<br>(4) Press the [SET] button to store the adjustment data.<br>**Note:**<br>Adjust the setup level by decreasing it from + side, and stop decreasing when it just reaches 0. |
| |  | | | | |

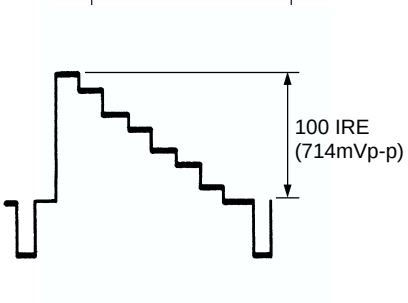
| No. | Item | Measuring instruments & Input signals | Mode | Measuring point (◎)<br>Adjustment parts (⏉)<br>Adjustment level (☆) | Adjustment procedure |
|---|---|---|---|---|---|
| 25 | NTSC LINE IN REC C level adjustment (SETUP ON) | WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (SET UP 7.5 %) | EE ADJUST MENU, 240. LE REC C LEV (S ON) | ◎ C OUT (Y/C jack) (75 Ω terminated)<br>⏉ [PLAY] and [STOP] buttons<br>☆ 836 mVp-p (RED) | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 240, "LE REC C LEV (S ON)".<br>(3) Adjust so that the RED color levels are as specified.<br>(4) Press the [SET] button to store the adjustment data. |
| 26 | NTSC Y/C IN EE Y level adjustment (SETUP ON) | WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (Setup 7.5%) | EE ADJUST MENU, 241. YC EE Y LEV (S ON) | ◎ Y OUT (Y/C jack) (75 Ω terminated)<br>⏉ [PLAY] and [STOP] buttons<br>☆ 100 IRE (714 mVp-p) | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 241, "YC EE Y LEV (S ON)".<br>(3) Adjust so that the level from the pedestal to 100% WHITE is as specified.<br>(4) Press the [SET] button to store the adjustment data. |
| 27 | NTSC Y/C IN EE C level adjustment (SETUP ON) | WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (Setup 7.5%) | EE ADJUST MENU, 242. YC EE C LEV (S ON) | ◎ C OUT (Y/C jack) (75 Ω terminated)<br>⏉ [PLAY] and [STOP] buttons<br>☆ 40 IRE (286 mVp-p) | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 242, "YC EE C LEV (S ON)".<br>(3) Adjust so that the burst levels are as specified.<br>(4) Press the [SET] button to store the adjustment data. |

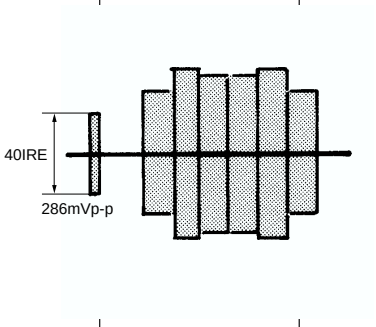


| No. | Item | Measuring instruments & Input signals | Mode | Measuring point (◎)<br>Adjustment parts (⇧)<br>Adjustment level (☆) | Adjustment procedure |
|---|---|---|---|---|---|
| 28 | NTSC LINE IN EE Y level adjustment (SETUP ON) | WFM (NTSC) or oscilloscope<br>LINE IN.<br>NTSC 100% color bar<br>(Setup 7.5%) | EE ADJUST MENU, 243. LE EE Y LEV (S ON) | ◎ Y OUT (Y/C jack) (75 Ω terminated)<br>⇧ [PLAY] and [STOP] buttons<br>☆ 100 IRE (714 mVp-p) | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 243, "LE EE Y LEV (S ON)".<br>(3) Adjust so that the level from the pedestal to 100% WHITE is as specified.<br>(4) Press the [SET] button to store the adjustment data. |
| 29 | NTSC LINE IN EE C level adjustment (SETUP ON) | WFM (NTSC) or oscilloscope<br>LINE IN.<br>NTSC 100% color bar<br>(Setup 7.5%) | EE ADJUST MENU, 244. LE EE C LEV (S ON) | ◎ C OUT (Y/C jack) (75 Ω terminated)<br>⇧ [PLAY] and [STOP] buttons<br>☆ 40 IRE (286 mVp-p) | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 244, "LE EE C LEV (S ON)".<br>(3) Adjust so that the burst levels are as specified.<br>(4) Press the [SET] button to store the adjustment data. |



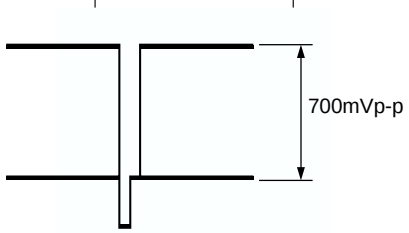



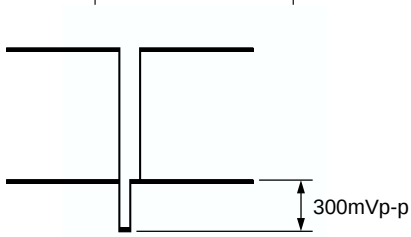
| No. | Item | Measuring instruments & Input signals | Mode | Measuring point (◎)<br>Adjustment parts (⏉)<br>Adjustment level (☆) | Adjustment procedure |
|---|---|---|---|---|---|

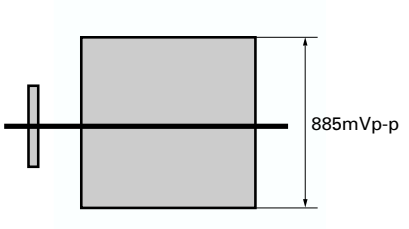
**(2) PAL circuit adjustments**

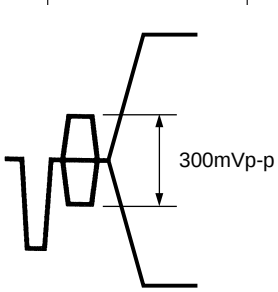
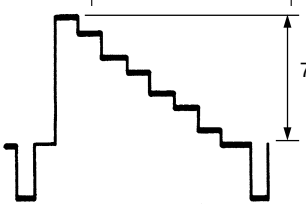
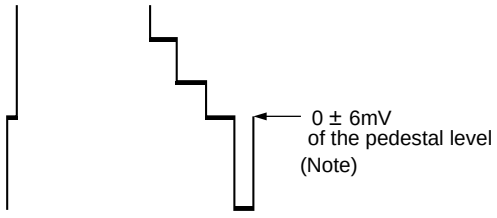
Set the [NTSC /PAL] switch of rear panel to “PAL”.

| | | | | | |
|---|---|---|---|---|---|
| 30 | PAL PB Y level adjustment | WFM (PAL) or oscilloscope<br>100% WHITE (built-in signal) | EE<br>ADJUST MENU, 260. PB Y LEV (PAL) | ◎ Y OUT (Y/C jack) (75 Ω terminated)<br>⏉ [PLAY] and [STOP] buttons<br>☆ 700 mVp-p | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 260, "PB Y LEV (PAL)".<br>(3) Adjust so that the level from the pedestal to 100% WHITE is as specified.<br>(4) Press the [SET] button to store the adjustment data.<br>**Note:**<br>**When this item is selected after an NTSC adjustment item, the built-in 100% WHITE signal may sometimes be unable to be output. In this case, select No. 262, "PB SYNC LEV (PAL)" and then select No. 260, "PB Y LEV (PAL)" again.** |
| 31 | PAL PB SYNC level adjustment | WFM (PAL) or oscilloscope<br>100% WHITE (built-in signal) | EE<br>ADJUST MENU, 262. PB SYNC LEV (PAL) | ◎ Y OUT (Y/C jack) (75 Ω terminated)<br>⏉ [PLAY] and [STOP] buttons<br>☆ 300 mVp-p | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 262, "PB SYNC LEV (PAL)".<br>(3) Adjust so that the sync level is as specified.<br>(4) Press the [SET] button to store the adjustment data. |
| 32 | PAL PB C level adjustment | WFM (PAL) or oscilloscope<br>RED raster (built-in signal) | EE<br>ADJUST MENU, 263. PB C LEV (PAL) | ◎ C OUT (Y/C jack) (75 Ω terminated)<br>◎ [PLAY] and [STOP] buttons<br>☆ 885 mVp-p | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 263, "PB C LEV (PAL)".<br>(3) Adjust so that the color levels are as specified.<br>(4) Press the [SET] button to store the adjustment data. |

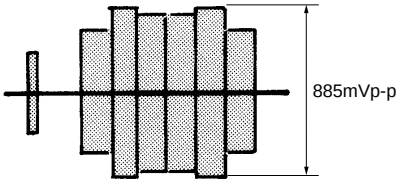


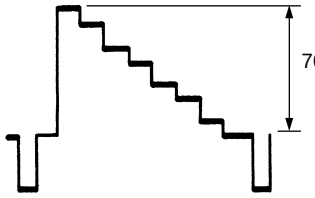



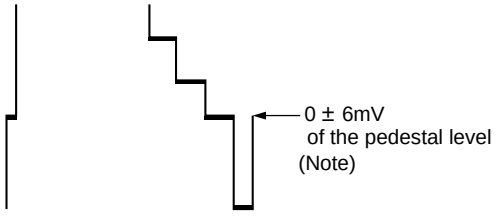



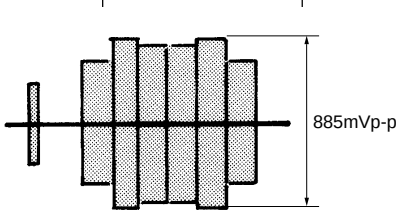
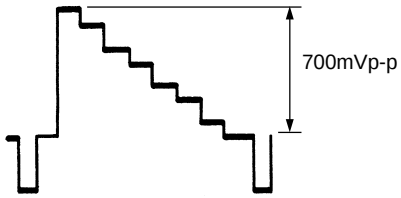
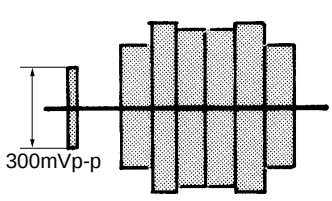
| No. | Item | Measuring instruments & Input signals | Mode | Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆) | Adjustment procedure |
|---|---|---|---|---|---|
| 33 | PAL PB BURST level adjustment<br>  | WFM (PAL) or oscilloscope<br>RED raster (built-in signal) | EE<br>ADJUST MENU, 264.<br>PB BUR LEV (PAL) | ◎ C OUT (Y/C jack) (75Ω terminated)<br>⇧ [PLAY] and [STOP] buttons<br>☆ 300 mVp-p | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 264, "PB BUR LEV (PAL)".<br>(3) Adjust so that the burst level is as specified.<br>(4) Press the [SET] button to store the adjustment data. |
| 34 | PAL Y/C IN REC Y level adjustment<br>  | WFM (PAL) or oscilloscope<br>Y/C IN<br>PAL 100% color bar | EE<br>ADJUST MENU, 265.<br>YC REC Y LEV (PAL) | ◎ Y OUT (Y/C jack) (75Ω terminated)<br>⇧ [PLAY] and [STOP] buttons<br>☆ 700 mVp-p | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 265, "YC REC Y LEV (PAL)".<br>(3) Adjust so that the level from the pedestal to 100% WHITE is as specified.<br>(4) Press the [SET] button to store the adjustment data. |
| 35 | PAL Y/C IN REC SETUP level adjust-ment<br>  | WFM (PAL) or oscilloscope<br>Y/C IN<br>PAL 100% color bar | EE<br>ADJUST MENU, 266.<br>YC REC ST LV (PAL) | ◎ Y OUT (Y/C jack) (75Ω terminated)<br>⇧ [PLAY] and [STOP] buttons<br>☆ 0 ± 6 mV of the pedestal level | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 266, "YC REC ST LV (PAL)".<br>(3) Adjust so that the setup level is as specified.<br>(4) Press the [SET] button to store the adjustment data.<br>(5) Check ADJUST MENU No. 265, "YC REC Y LEV (PAL)" in item 34 above. If it is deviated, adjust it again.<br>**Note:**<br>Adjust the setup level by decreasing it from + side, and stop decreasing when it just reaches 0. |

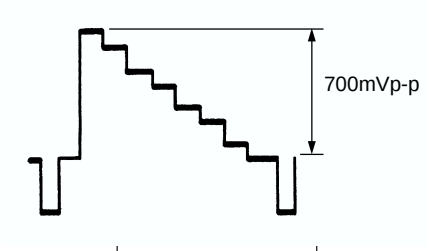
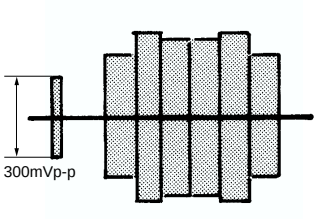
| No. | Item | Measuring instruments & Input signals | Mode | Measuring point (◎)<br>Adjustment parts ( ↑ )<br>Adjustment level ( ☆ ) | Adjustment procedure |
|---|---|---|---|---|---|
| 36 | PAL Y/C IN REC C level adjustment | WFM (PAL) or oscilloscope<br>Y/C IN<br>PAL 100% color bar | EE<br>ADJUST MENU, 267.<br>YC REC C LEV (PAL) | ◎ C OUT (Y/C jack) (75Ω terminated)<br>↑ [PLAY] and [STOP] buttons<br>☆ 885 mVp-p (RED) | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 267, "YC REC C LEV (PAL)".<br>(3) Adjust so that the RED color levels are as specified.<br>(4) Press the [SET] button to store the adjustment data. |
| 37 | PAL LINE IN REC Y level adjustment | WFM (PAL) or oscilloscope<br>LINE IN<br>PAL 100% color bar | EE<br>ADJUST MENU, 268.<br>LE REC Y LEV (PAL) | ◎ Y OUT (Y/C jack) (75Ω terminated)<br>↑ [PLAY] and [STOP] buttons<br>☆ 700 mVp-p | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 268, "LE REC Y LEV (PAL)".<br>(3) Adjust so that the level from the pedestal to 100% WHITE is as specified.<br>(4) Press the [SET] button to store the adjustment data. |
| 38 | PAL LINE IN REC SETUP level adjustment | WFM (PAL) or oscilloscope<br>LINE IN<br>PAL 100% color bar | EE<br>ADJUST MENU, 269.<br>LE REC ST LV (PAL) | ◎ Y OUT (Y/C jack) (75Ω terminated)<br>↑ [PLAY] and [STOP] buttons<br>☆ 0 ± 6 mV of the pedestal level | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 269, "LE REC ST LV (PAL)".<br>(3) Adjust so that the setup level is as specified.<br>(4) Press the [SET] button to store the adjustment data.<br>(5) Check ADJUST MENU No. 268, "LE REC Y LEV (PAL)" in item 37 above. If it is deviated, adjust it again.<br>**Note:**<br>Adjust the setup level by decreasing it from + side, and stop decreasing when it just reaches 0. |



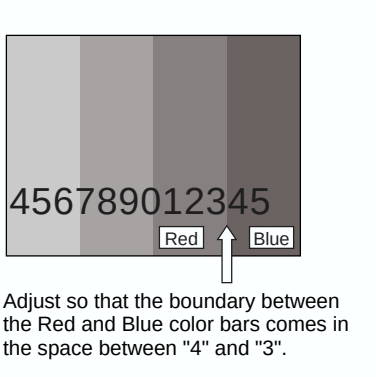



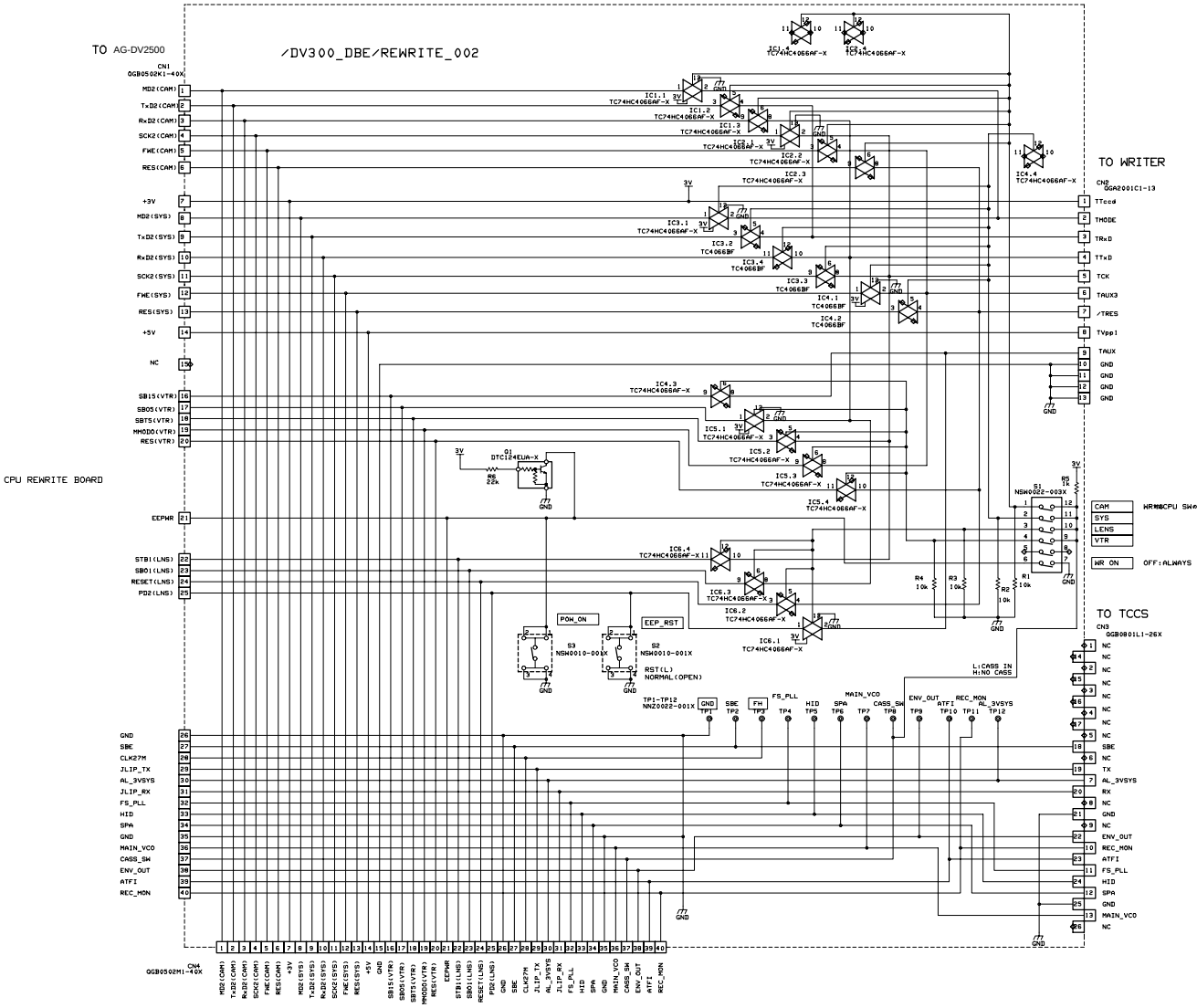
| No. | Item | Measuring instruments & Input signals | Mode | Measuring point (◎)<br>Adjustment parts ( ⓣ )<br>Adjustment level ( ☆ ) | Adjustment procedure |
|---|---|---|---|---|---|
| 39 | PAL LINE IN REC C level adjustment | WFM (PAL) or oscilloscope<br>LINE IN<br>PAL 100% color bar<br>  | EE<br>ADJUST MENU, 270.<br>LE REC C LEV (PAL) | ◎ C OUT (Y/C jack) (75Ω terminated)<br>ⓣ [PLAY] and [STOP] buttons<br>☆ 885 mVp-p | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 270, "LE REC C LEV (PAL)".<br>(3) Adjust so that the RED color levels are as specified.<br>(4) Press the [SET] button to store the adjustment data. |
| 40 | PAL Y/C IN EE Y level adjustment | WFM (PAL) or oscilloscope<br>Y/C IN<br>PAL 100% color bar<br>  | EE<br>ADJUST MENU, 271.<br>YC EE Y LEV (PAL) | ◎ Y OUT (Y/C jack) (75Ω terminated)<br>ⓣ [PLAY] and [STOP] buttons<br>☆ 700 mVp-p | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 271, "YC EE Y LEV (PAL)".<br>(3) Adjust so that the level from the pedestal to 100% WHITE is as specified.<br>(4) Press the [SET] button to store the adjustment data. |
| 41 | PAL Y/C IN EE C level adjustment | WFM (PAL) or oscilloscope<br>Y/C IN<br>PAL 100% color bar<br>  | EE<br>ADJUST MENU, 272.<br>YC EE C LEV (PAL) | ◎ C OUT (Y/C jack) (75Ω terminated)<br>ⓣ [PLAY] and [STOP] buttons<br>☆ 300 mVp-p | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 272, "YC EE C LEV (PAL)".<br>(3) Adjust so that the burst levels are as specified.<br>(4) Press the [SET] button to store the adjustment data. |

| No. | Item | Measuring instruments & Input signals | Mode | Measuring point (◎)<br>Adjustment parts (⏉)<br>Adjustment level (☆) | Adjustment procedure |
|---|---|---|---|---|---|
| 42 | PAL LINE IN EE Y level adjustment<br>  | WFM (PAL) or oscilloscope<br>LINE IN<br>PAL 100% color bar | EE<br>ADJUST MENU, 273.<br>LE EE Y LEV (PAL) | ◎ Y OUT (Y/C jack) (75 Ω terminated)<br>⏉ [PLAY] and [STOP] buttons<br>☆ 700 mVp-p | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 273, "LE EE Y LEV (PAL)".<br>(3) Adjust so that the level from the pedestal to 100% WHITE is as specified.<br>(4) Press the [SET] button to store the adjustment data. |
| 43 | PAL LINE IN EE C level adjustment<br>  | WFM (PAL) or oscilloscope<br>LINE IN<br>PAL 100% color bar | EE<br>ADJUST MENU, 274.<br>LE EE C LEV (PAL) | ◎ C OUT (Y/C jack) (75 Ω terminated)<br>⏉ [PLAY] and [STOP] buttons<br>☆ 300 mVp-p | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 274, "LE EE C LEV (PAL)".<br>(3) Adjust so that the burst levels are as specified.<br>(4) Press the [SET] button to store the adjustment data. |

**(3) On-screen display adjustment**

| No. | Item | Measuring instruments & Input signals | Mode | Measuring point (◎)<br>Adjustment parts (⏉)<br>Adjustment level (☆) | Adjustment procedure |
|---|---|---|---|---|---|
| 44 | On-screen display position adjustment<br>  | Monitor TV Color bar (built-in signal) | EE<br>ADJUST MENU, 200<br>OSD ADJ | ◎ LINE OUT or Y/C OUT (75 Ω terminated)<br>⏉ [PLAY] and [STOP] buttons<br>☆ Between "3" and "4" ± 1/5 character | (1) Set the INPUT SELECT SW to LINE or Y/C.<br>(2) Select ADJUST MENU No. 200, "OSD ADJ".<br>(3) Adjust so that the boundary between the Red and Blue color bars comes in the space between "4" on the second position from the right of the array of figures on the bottom of the screen and "3" on the third position.<br>(4) Press the [SET] button to store the adjustment data. |

## 3.4 REWRITE BOARD SCHEMATIC DIAGRAM




| S1 | | | S2 | S3 |
|---|---|---|---|---|
| Pin No. | Initial | Parameter | Not used | Not used |
| 1 | OFF | ON : Enable to rewrite VTR (MSD) | | |
| 2 | OFF | ON : Enable to rewrite SYS CPU | | |
| 3 | OFF | Not used | | |
| 4 | OFF | ON : Enable to rewrite VTR (MSD) CPU ((Note) | | |
| 5 | OFF | Not used | | |
| 6 | OFF | Not used | | |

(Note : When rewriting the VTR (MSD) firmware, both of switch S1 - 1 and 4 should be set to “ON”.